A CLINICAL STUDY OF PNEUMONIA:

WITH NOTES OF

*ONE HUNDRED CONSECUTIVE CASES OCCURRING IN HOSPITAL PRACTICE.**

BY

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PNEUMONIA constitutes one of the most formidable problems which confront the physician. The disease is upon the increase; nothing is known as regards its prevention; it involves a very heavy mortality; the treatment is a matter of much difficulty and anxiety. On all these grounds it calls for the best thought and study which we can devote to it.

The series of 100 consecutive cases here recorded were treated in my wards of the Royal Victoria Hospital, Belfast, in the years 1899–1913. They are recorded as they arose, without any selection. The deaths include 2 cases which were moribund on admission. Hospital mortality is everywhere somewhat high, inasmuch as, speaking generally, only cases of considerable severity seek admission; patients are in some cases only admitted when the disease has run its course for several days; and the number of children admitted to general hospitals is relatively small. All these factors have a bearing upon the mortality.

I. *Age.*

Age.	Cases.	Deaths.	Mortality.
			Per Cent.
Under 10 years	5	0	0
10–20	17	0	0
20–30	27	5	18.5
30–40*	18	3	16.5
40–50	14	5	35.7
50–60	13	3	23
60–70	5	3	60
Over 70	1	1	100

* Under 40 years—67 cases 8 deaths; average mortality 11.94 per cent.

This table brings out clearly the dominating influence of age. Under 20 years there were 22 cases and no deaths. Under 40 there were 67 cases, with 8 deaths—average mortality, 11.94 per cent. After 40 the mortality rose rapidly. The fact that the mortality was higher in the ages 40 to 50 than in the ages 50 to 60 was probably a casual fluctuation. The general influence of advancing years is clear.

II. *Sex.*

Sex.	Cases.	Deaths.	Mortality.
			Per Cent.
Males	75	15	20
Females	25	5	20

The higher attack-rate in the male sex is in accord with general experience. The mortality was identical in the two sexes.

III. *Occupation.*

	Cases.	Deaths.	Mortality.
			Per Cent.
"Indoor" occupations ...	55	10	18.18
"Outdoor" occupations..	45	10	22.2

So far as these figures go, the influence of occupation upon the attack-rate and the mortality is not noteworthy.

Though Belfast is a great port, it is remarkable that only one sailor appears in the series, and he was a Hindu.

* Read at a meeting of the Ulster Branch in Londonderry.

HISTORY OF PATIENTS PRIOR TO THE ATTACK.

Alcoholism.

There was a definite history of alcoholic excess in 17 cases—all males—of whom 4 died, 3 of these being over 40 years of age. This is a lower mortality in the alcoholic than might have been anticipated, especially in the light of the age law. Unacknowledged alcoholism was, no doubt, a factor in other cases—it is impossible to say how many.

Previous Attacks of Pneumonia.

In 18 cases there was a history of previous attacks, varying in time from thirty years to three months before admission. Of these only 2 died. One patient who had had two previous attacks recovered.

These statistics support the view that the prospects of a patient who has passed successfully through a previous attack of the disease are above the average.

Wetting and Exposure.

Only 6 patients attributed their attack to a wetting. Exposure is so common in patients of the hospital class that its influence as a causal factor cannot be determined with any accuracy. It has probably considerable influence.

Pulmonary Tuberculosis.

Twelve patients had a definite history of tubercle, and of these only one died. This tends to support the view that the prospects of phthisical patients in pneumonia are, on the whole, good. My experience in private practice confirms this view.

Abnormal Histories.

1 case followed immersion in the docks and proved fatal.
1 ,, ,, gas poisoning and also proved fatal.
1 ,, ,, ether administration—recovered.
2 cases were moribund on admission.
3 ,, occurred during attacks of bronchitis.
2 ,, had previously had acute rheumatism—1 died.

The absence of a history of influenza is noteworthy.

Mode of Onset.

47 cases gave a history of one severe prolonged rigor.
1 case had two rigors.
1 ,, had three rigors.
1 ,, had several rigors.
1 ,, had "shivered for six hours."
1 ,, had "shivered for three days"!
48 cases gave no history of rigor.

Early prostration was marked in nearly every case. Only 2 cases remained at work after the initial rigor.

SYMPTOMS.

Most cases presented the typical pneumonic syndrome, but—

(*a*) 5 cases were admitted as "abdominals"—namely, 3 as "colic"; 1 as enteric fever; 1 as subphrenic abscess. All these patients recovered.
(*b*) 13 cases had persistent vomiting; all recovered.
(*c*) 17 cases had albuminuria in considerable amount; of these 6 died—mortality, 35.3 per cent.
(*d*) 7 cases had valvular disease of the heart; of these only 1 died—mortality, 14.3 per cent.
(*e*) 3 cases had marked delirium; all died.
(*f*) 1 case had practically no symptoms. In elderly patients the onset of pneumonia may be quite insidious.
(*g*) A tinge of yellow in the conjunctiva was common, but marked jaundice hardly occurred.

Relation of Temperature to Mortality.

Maximum Temperature.	Cases.	Deaths.	Mortality.
			Per Cent.
Exceeded 105° F.	1	1	100.0
104°–105° F.	10	3	30.0
103°–104° F.	39	7	18.0
102°–103° F.	27	5	18.5
101°–102° F.	7	4	57.1
Under 101° F.	16	1	6.25

The most noteworthy feature of this table is the high mortality in cases where the maximum temperature ranged from 101° to 102° F. A low temperature in pneumonia may indicate imperfect reaction, and is common in

the elderly and in the alcoholic. It may also indicate a mild attack. A smart pyrexia is not unfavourable.

Lung Involvement.

	Cases.	Deaths.	Mortality.
			Per Cent.
(*a*) Double pneumonia ...	13	7	54.0
(*b*) Right base	40	8	20.0
(*c*) Left base	31	2	6.4
(*d*) Right apex	5	1	20.0
(*e*) Left apex	3	0	0.0
(*f*) All right lung	4	1	25.0
(*g*) All left lung	4	1	25.0

These figures emphasize the deadliness of double pneumonia. They show a heavier mortality in right than in left pneumonias. They run counter to the view which has sometimes been maintained, that apical is more serious than basal pneumonia. In my cases, upon the whole, the contrary was the case. The moderate mortality in cases where an entire lung was involved is worthy of note.

Complications.

The complications recorded as having been present were as follows:

Pleurisy	8 cases.
Empyema	3 ,,
Pulmonary fibrosis	4 ,,
Pharyngeal abscess	1 case.
Gangrene of lung	1 ,,
Pharyngeal abscess	1 ,,
Unilateral spasm	1 ,,

No case of abscess of the lung was recorded. One patient developed aortic reflux during the attack. No clear case of malignant endocarditis occurred in the series, though its presence was more than once suspected. No patient, not previously tuberculous, developed phthisis as the result of his illness. Pleurisy was only noted as a complication where it was a prominent feature. No case of meningitis occurred. The small proportion of cases of empyema is noteworthy.

Course of the Disease.

Definite crisis, 52 cases—namely:

On the 3rd day	8 cases
,, 5th ,, ...	19 ,,
,, 7th ,, ...	19 ,,
,, 9th ,, ...	3 ,,
,, 11th ,, ...	3 ,,

It is curious how this table supports the old medical tradition that the crisis usually occurs upon the uneven numbers. A termination by lysis was recorded in 34 per cent. of cases.

Average duration of patients' stay in hospital: Uncomplicated cases, 23 days.

PATHOLOGY.

The pneumococcus was found to be practically constant in the sputum.

Seasonal Influence.

The attack-rate, as is shown in the following table, was much higher in the months November to May than in the months May to November. The mortality shows some curious fluctuations in the monthly averages, but is, upon the whole, higher in the months of greater prevalence of the disease.

Influence of Season upon Attack-rate and Mortality.

Month.	Cases.	Deaths.	Mortality.
			Per Cent.
January	11	3	27.2
February	16	3	18.7
March	9	1	11.1
April	14	3	21.4
May	12	2	16.7
June	8	1	12.5
July	3	0	0
August	4	0	0
September	5	2	40
October	4	1	25
November	7	2	28.5
December	7	2	28.5

Comparative Virulence of the Disease in Different Years.

There is evidence that the disease varies much in intensity in different years. The following table is instructive from this point of view:

Year.	Cases.	Deaths.	Mortality.
			Per Cent.
1899	3	0	0
1900	2	0	0
1901	1	1	100
1902	4	0	0
1903	12	1	8.3
1904	3	1	33.3
1905	3	1	33.3
1906	9	3	33.3
1907		3	33.3
1908	8	0	0
1909	10	2	20
1910	8	0	0
1911	14	5	35.7
1912	7	0	0
1913	7	3	43

Thus in six years out of fifteen the mortality was *nil*, while in seven years it was over 30 per cent. This can hardly have been a matter of chance. We must assume variations in the intensity of the virus of the disease. I cannot trace any connexion between varying rates of mortality and the meteorological characteristics of the different years. None of the years in the record were specifically "influenza years."

MORTALITY.

The general mortality was 20 per cent., or, omitting, as we may fairly do, two cases which were moribund on admission, 18 per cent. This is roughly the average mortality of the disease in general practice, including all ages and every degree of severity, but hospital statistics, which are usually less favourable, often show a much higher figure. Osler's mortality in his clinic at the Johns Hopkins Hospital was 30.4 per cent., or, excluding some cases of terminal pneumonia, 26.4 per cent. Goodhart had 25 deaths in 120 cases. At the Presbyterian Hospital, Philadelphia, the mortality was 28.7 per cent.; at the Montreal General Hospital, 20.4 per cent.; at the Boston City Hospital, 29.1 per cent. On the other hand, Fraenkel at the Hamburg Hospital had a mortality of 19.2 per cent., and Powell at the Middlesex Hospital a mortality of 17 per cent.

PROGNOSIS.

The prognosis is determined mainly by the following factors, namely:

(*a*) The patient's age; this dominates the outlook.

(*b*) The amount of lung involved. Double pneumonia is very deadly.

(*c*) The general character of the symptoms. Marked cerebral involvement is very serious. Very high temperatures are grave, while abnormally low temperatures may indicate either a mild attack or deficient reaction. The latter is common in the aged and alcoholic. Slight febrile albuminuria has little weight, but signs of marked renal congestion are serious.

(*d*) The nature of the complications. Gangrene and abscess of the lung are very serious. Pericarditis, of which curiously there is no record in any of my series of 100 cases, but which is not extremely rare, is a grave complication, and malignant endocarditis carries with it an almost certainly fatal issue. Meningitis is another rare complication which usually involves death. The good

record of my cases with endocarditis—7 cases with 1 death—is somewhat surprising.

DIAGNOSIS.

The diagnosis of pneumonia is usually obvious, yet mistakes are common, and not always due to carelessness on the part of the practitioner. In a small minority of cases the diagnosis is really difficult. Mistakes arise in the following ways:

1. Because the physical signs may be entirely latent for one, two, three, or more days. It is not very rare for a patient to have a typical seizure and to present all the typical symptoms while the most careful exploration of the chest fails to yield any definite signs. The sudden onset, the initial rigor, the sharp pyrexia, the urgent dyspnoea, and the rapid prostration should suffice to put us on our guard in such cases.

2. Because the early symptoms may be mainly cerebral—namely, intense headache, convulsions, delirium, excitement, or coma. The unwary practitioner is apt to diagnose these cases as meningitis or acute mania, but movements of the alae nasi, the temperature, the burning skin, and the signs in the chest make a correct diagnosis easy.

3. Because abdominal symptoms may be prominent at the outset, especially abdominal pain. Five instances of this unfortunate error are recorded in my series, three cases being mistaken for "colic," one for enteric fever, and one for subphrenic abscess. But this by no means exhausts the category of abdominal conditions which have been confused with pneumonia. Perforation of the stomach or bowel, appendicitis, peritonitis, and even acute pancreatitis have been wrongly diagnosed and laparotomies needlessly performed. These mistakes are easily avoided by attention to the history, the mode of onset, the temperature, the dyspnoea, and the physical signs in the chest.

4. Because certain of the specific fevers have occasionally a pneumonic onset. I have seen several cases of enteric fever which began with pneumonic symptoms and signs and where the diagnosis at first was difficult. But if we are on our guard we need not fall into error. Some of the characteristic signs of enteric will soon appear. An enlarged spleen, a suspicious spot or two, a significant course of the temperature, or Widal's reaction, may give us the necessary hint. In some countries, in the presence of an untypical pneumonia, our thoughts should turn to plague.

I will not occupy your time by a discussion of the differentiation of pneumonia from pleurisy, broncho-pneumonia, or pneumonic phthisis. Every textbook on medicine does full justice to such matters.

TREATMENT.

It remains to speak of treatment. I shall first indicate my own methods and then deal with two or three controversial points.

I treat pneumonia as an acute general infection, with special impact upon the lungs, inducing a very intense type of toxaemia, and involving special danger from the side of the heart. Everything that tends to conserve the patient's strength and remove sources of irritation receives attention. Our system of ventilation at the Royal Victoria Hospital, which changes the air seven times in each hour, secures an abundant supply of pure air. Only milk is allowed—three pints in the twenty four hours—any excess of nourishment being regarded as likely to remain unabsorbed, and to distend the stomach, and embarrass the heart. A light warm poultice, frequently renewed, is applied to the chest, care being taken not to embarrass the respiratory movements, and after the third or fourth day this is replaced by a jacket of cotton-wool. In the hope of diminishing the toxaemia the skin, bowels, and kidneys are gently stimulated, all remedies which might tend to depress the heart being avoided. If the patient is in great pain or very restless a hypodermic of morphine or a few grains of Dover's powder are administered.

In the presence of any signs of circulatory weakness strychnine is given hypodermically, and ammonia and digitalis, and sometimes caffeine, by the mouth. Alcohol is used sparingly, and only in the more serious cases and in moderate or small quantity. Of the 100 cases in my series, only 39 received any alcohol. Brandy was the usual stimulant, and the amount seldom exceeded three or four ounces. In the presence of unusual dyspnoea or cyanosis oxygen is administered, the gas being passed through alcohol. Tepid sponging is vigorously practised in every case, and cold sponging when the indications seem to point to its use. Antipyretics or expectorant drugs are not administered.

Bleeding was not employed in any of this series of cases, though I have had some small experience of that procedure elsewhere. For the relief of persistent insomnia paraldehyde, bromides, and morphine are sparingly used. The various complications, when they arise, are treated upon the usual lines. After the crisis all special medication is suspended, the patient is allowed a liberal diet, and some tonic is administered. Alcohol is always stopped at this stage, unless there are serious complications.

The above represents a comparatively simple therapy, and I am persuaded that fussy and meddlesome treatment in pneumonia does more harm than good.

In conclusion, let me deal briefly with some controversial points. I have never used icebags or ice poultices to the chest in pneumonia, and I can furnish no evidence as to their value. This method of treatment does not appear to be gaining favour. There seems to be some danger that it might depress the heart. As clots are found *post mortem* in the right heart in many fatal cases of pneumonia, I tried the administration of citrates and citric acid in a few cases some years ago, but I could not satisfy myself that this line of treatment presented any advantage. I have made a limited trial of serum treatment, but have not felt encouraged to persevere with this method. On theoretical grounds pneumonia seems a particularly unpromising field for vaccine therapy. We may yet get an efficient serum, but up to the present no such remedy appears to be available.

I have seen bleeding employed in a few cases, and there is no doubt that the removal of a few ounces of blood tends to relieve the labouring right heart, and to mitigate the dyspnoea. But I have no wish to see this long-discarded method reintroduced into general favour. If applied without great discrimination, it is quite capable of turning the frail balance against a patient at the critical juncture. We should need some definite statistics to prove the efficacy of venesection before adopting it as a common expedient. Textbooks give the practice a sort of qualified benediction, but cautious practitioners are shy of it at the bedside.

The value of alcohol in pneumonia is a vexed question. I incline to its use in moderate quantity in severe cases, and in the presence of circulatory weakness, especially in patients who are no longer young and who have been accustomed to it in health. In mild attacks, in most young patients, and where the pulse is good, it is better withheld. It should certainly not be given in any routine fashion or in the excessive quantities which were at one time in vogue. If we may often be in doubt as to the wisdom of prescribing alcohol, we can generally tell without much difficulty whether, when given, it is proving of service. The effect upon the pulse, the nervous system, the skin, the urine, and upon sleep are the chief points which should guide us in this matter.

Among the errors to be avoided in the treatment of pneumonia we might signalize the following: Neglect of thorough ventilation; forgetfulness of the fact that any local applications which impede the free movements of the chest are likely to do harm; the use of expectorants which are probably inert; the excessive employment of strychnine and cardiac tonics in the absence of signs of circulatory weakness; too much timidity in the use of sedatives in the early days of the disease; too much nourishment; too free exhibition of alcohol.

In the treatment of unresolved pneumonias every case must be dealt with according to its special indications. Counter-irritation is usually employed, and fibrolysin and the x rays are recommended. Our main reliance, however, will probably be upon general tonic and hygienic measures and change of air. Mountain air is often useful.

To sum up, we should treat pneumonia on the lines of the acute general infections, remembering the intensity of the toxaemia, its self-limitation and relatively brief duration, its tendency to depress the heart and cause circulatory failure, the increase of the fibrin elements in the

blood, the importance of a fortifying line of treatment and of avoiding all depressing measures.

The problem of specific treatment still awaits solution.

(I have to acknowledge the valuable assistance of my house-physician, Dr. Turkington, in preparing the data for this paper.)

A Lecture
ON
RADIUM IN THE TREATMENT OF MALIGNANT DISEASE.

Delivered at the Cancer Hospital, Brompton.

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The action of radium on human tissues was accidentally discovered by Bécquerel in 1901. He carried a quantity of unprotected radium in one of his pockets for a time. A fortnight later a burn appeared on the skin. This accident quickly led to a number of experimental exposures, first on animals and later on human subjects. Wickham of Paris experimented largely with the new agent, and there is no doubt that the medical profession is greatly indebted to this pioneer in radium-therapy, both for the valuable work he has carried out himself, and for having stimulated others to work on the subject.

Remarkable success followed the use of radium on superficial lesions of the skin; naevi, keloid, lupus, rodent ulcer, and, later, epithelioma, have yielded to its curative power.

Methods of Application.

The emanation may be used for inhalation alone or mixed with oxygen, by injection, or, after its deposition upon metals, in glass tubes or on agar pads.

Inhalation has had up to the present no practical value in the treatment of malignant disease. The emanation may be injected into tissues in a saline solution. The solution takes up a very small percentage of the active gas, and is therefore hardly applicable for the type of case we are usually called upon to treat.

The deposition of the active principles upon metals, etc., opens up a large field of usefulness, and it is possible that in the future we may be able to make good use of this method in selected cases.

Experiments are being carried on by Mr. Phillips, the honorary physicist to the hospital, on the absorption power of petroleum, and we hope to get a fairly large percentage of the emanation taken up by petroleum, giving us a very active preparation which may be useful both for internal administration and for injection into the tissues; by the former method it is hoped that we shall be able to introduce into the system a large quantity of radio-active matter. We cannot expect to influence cancer and similar disease, but Dr. Bellingham Smith has shown that radium emanation in whatever form it is used is rapidly eliminated by the respiratory organs, so that a future field of usefulness for radium may lie in the treatment of respiratory diseases (phthisis, asthma, chronic bronchitis, etc.).

The deposit of emanation upon flat surfaces (pads of agar-agar) and their application to the surface of a growth and ionization of the particles into the deeper structures by the aid of a galvanic current may prove to be a useful method.

Flat applicators containing the radium in a varnish are useful in the treatment of rodent ulcer, superficial epithelioma, recurrent nodules of cancer, etc. It is chiefly the beta rays which are employed by this method.

Radium contained in metal tubes which act as filters, of the necessary thickness, may be used for particular purposes, and several tubes may be arranged around a growth.

Tubes may be inserted into the various cavities of the body (mouth, oesophagus, etc.). In treating a stricture of the oesophagus, a preliminary x-ray examination is necessary to locate the stricture and to give some idea of the extent of the malignant growth. A bismuth cachet is swallowed by the patient, and when screened may be seen passing down the oesophagus. Should there be obstruction, the cachet will be found in the stricture. The exact situation of the obstruction can be determined before the radium tube is passed into it. Later, a radiograph will help us to ascertain if the tube occupies the correct position necessary to influence the growth.

Radium tubes may be buried in the substance of a tumour for a time determined beforehand. It is important that the tubes shall be well surrounded by the growth in order to get the maximum effect of the radiations upon the new growth; the tubes should be placed at equal distances from one another to ensure an equal distribution of the radiations.

Action of Radium upon Tumour Cells.

The action of radium on tumour cells is not purely caustic, though caustic effects can readily be produced if the exposure is too prolonged or the filtration is insufficient. In some growths we deliberately make use of the caustic action to produce necrosis of the mass, in the hope that when the slough separates the normal tissues will fill in the resulting ulcer.

Occasionally enlarged glands are reduced in size with hardly any skin reaction; nothing more than a slight erythema may be produced even after repeated exposures to the same area of skin, yet the enlarged glands situated at a much deeper level slowly diminish in size.

Malignant indurated ulcers will rapidly break down and heal under the action of radium.

The degree of action induced is dependent upon the method of application. The various degrees of tissue change depend upon the filtration employed and the length of the exposure. Thus, if necrosis of the growth is necessary, a thin filter would be used and a long exposure given. Here we are making use of the beta ray almost entirely. Should it be necessary to act on a deeper structure and at the same time protect the skin from such action, a thick filter of platinum or lead is used. Two millimetres of platinum or four of lead are sufficient to cut off all but the hardest of the beta rays, while the gamma ray is unaltered. The filters containing the radium are enclosed in a rubber tube to prevent the secondary radiation induced in the platinum by the radium rays from damaging the superficial structures. If the exposure be long, further protection can be secured by using an inch or more of lint or gamgee tissue.

In this way we can control the exposure so that we get nearly the pure gamma-ray effect. This enables us to get an action upon the deep-seated parts.

It has been claimed that radium possesses a "selective action" on cancer cells. While admitting that it undoubtedly appears to act on such cells, the word "selective" is badly used. Radium exercises an action on all living cells in a varying degree according to the resistance of the particular cell in question. Thus, young actively growing cells are more readily influenced than mature cells. The cells of a new growth approximate in structure and power of resistance to the actively growing cells of a tissue. In this way it is conceivable that the cancer cell is influenced should it at the time of exposure be attacked comparatively early in its life-cycle. Should the cancer cells be of a stronger or more vigorous type, it is conceivable that the action of the radium may be stimulating, and instead of a decrease in vigour of a particular cell we may find an increase in activity, and a consequent increase in the size of a tumour. It is a fact that some cases of cancer increase in size at a quicker rate after radium has been applied. Some types of cancer are more amenable to radium treatment than others.

In addition to the action upon the cancer cell itself, radium acts upon all the tissues composing the growth and surrounding structures unequally. There is a general stimulation of the healthy tissues as a result of radium treatment so long as the exposure is not excessive. If it should be excessive the action is apt to produce a caustic and ulcerative effect, which leads to local death of the tumour and a portion of the tissues around it. This may sometimes be desirable.

When the effect upon the healthy tissues is confined to stimulation, we expect to find an increase of fibrous tissue formation which shuts off the cancer tissue from its blood

supply and causes the atrophy of such cells. The reparative power of the normal tissues is strengthened, enabling them to cope with the invading cells and lead to their destruction. These changes can be seen in sections removed from cases undergoing treatment.

The changes induced in malignant growths by the action of radium and similar agents are, so far as we can see, indistinguishable from the degenerative changes seen in cases of growth which have received no treatment; but this important point must be insisted upon: that the percentage of cases in which we see these changes is much larger in the group of cases treated by radiations than in the group which has received no treatment.

It must be admitted that occasionally we see a case of untreated cancer diminish in size and, in a very small percentage, ultimately disappear. During the treatment of cancer by radiations it is by no means uncommon in a fairly large percentage of our cases to see a marked diminution in size produced. In a smaller percentage we do see the growth disappear—at all events for a time.

The local disappearance of a growth is not a cure. The disease may have, and in the majority of cases undoubtedly has, extended to other parts of the body. Consequently no case can be said to have been cured until we have given the deeper ramifications of the growth sufficient time to develop and manifest their presence. It is therefore important that before we treat the local condition a search be made for secondary deposits. From the point of view of prognosis, this is a most important matter.

Of the means we possess of ascertaining the secondary spread of cancer the first important point is to remember the distribution of the lymphatics draining the area in which the growth shows itself. Recent improvements in radiographic technique enable us to examine the thorax and other parts for secondary deposits in the mediastinum, pleura, or lungs.

A man, aged 24, came for the treatment of a growth of the lower jaw, in itself a serious condition to deal with, because at that age the progress of a new growth is rapid and exceedingly difficult to check. An examination of the thorax revealed a large secondary growth in the right lung. One has to treat such a case, but the result can easily be foretold.

In another case a parotid tumour had been operated upon on several occasions, and latterly the condition had practically disappeared under radium. The patient appeared to be in good health, but had lost a great deal of weight in a few months and complained of occasional attacks of dyspnœa of short duration. A radiograph showed that both lungs were riddled with secondary growths.

A woman, aged 55, had her left breast removed. She came for prophylactic *x*-ray treatment. The scar was free from secondary deposits, but she complained of a deep-seated pain at the upper end of the sternum, and secondary deposits were discovered in the anterior mediastinum.

One more case may be quoted. A patient, who had the left breast removed about a year earlier, came for the treatment of recurrent growth in the scar, axilla and supraclavicular region on the left side. For several months she had complained of a severe pain on the right side of the sternum, deep seated and gnawing. Several screen examinations and radiographs failed to reveal the presence of definite recurrence on the right side. She was carefully watched, and another radiograph revealed the cause of her pain. A well marked secondary nodule could be plainly seen, and in addition, on the left side, a supraclavicular gland.

This case is most instructive. It illustrates a point I am anxious to emphasize, namely, that regular examinations at intervals should be carried out on all patients undergoing treatment, either curative, palliative, or prophylactic.

SELECTION OF CASES FOR RADIUM TREATMENT.

The class of case which offers the best results in radium treatment also holds out the best promise of success by operation. The earlier we can treat a case of malignant disease the surer can we be of the result. At the very outset we must decide between the two, and in the present state of knowledge of radium and its effects upon new growth the choice must be given to early operation. We cannot tell when a case is going to do well under radium. Two cases of the same disease, and to all appearances precisely similar, may react quite differently to radium. Further, should the growth not promptly yield to the treatment, it may happen that the stimulation of the tissues composing the growth leads to a rapid extension of the disease; secondary nodules appear at the periphery of the tumour and grow rapidly, or metastases may appear quickly in deeper parts. Even when, to all appearances, the growth has disappeared, sooner or later recurrences may follow, and this after what at the time seemed adequate prophylactic treatment.

Rodent ulcers, when treated early, are particularly amenable to radium. They remain healed for considerable intervals, yet in the end a small recurrence appears at the periphery of the ulcer, and if not promptly dealt with may spread. Repeated recurrences have frequently to be dealt with in the same patient.

Admitting that in every early case of malignant disease operative measures should come first, there are some conditions when radium should be our second choice:

1. The patient may refuse operation, and thorough treatment by radium in early cases may lead to a disappearance of the growth.

2. Or the patient may not be in a suitable condition for operation, and again radium may be found useful.

3. Or it may be that the operation must be so radical that the risk to life is great. Radium should here be given careful consideration as a remedial agent.

4. Inoperable cases of malignant disease are generally handed over for radium treatment. Many of these are hopeless from a curative point of view. Here radium will relieve pain, diminish discharges, check haemorrhages, and frequently heal up ulcers of considerable size.

For comparison of results, it is well to subdivide the group of inoperable cases into the following classes:

(*a*) Advanced cases of malignant disease, in which it is obviously impossible to hope to do anything beyond relieving the pain and other distressing symptoms. This relief is sometimes a marked feature in radium treatment. Discharges may be lessened, and where haemorrhage is a feature in the case, especially if it be a general oozing from the growth and surrounding tissues, a sufficient exposure to the action of radium will lead to a cessation of the bleeding. Failing the prospect of achieving either of these results, such advanced cases should be left severely alone, as their treatment by radium can only bring discredit upon it.

(*b*) Less advanced cases, in which there may be a prospect of inducing degenerative changes in the tumour mass which will lead to a diminution in size. Some cases may thus be brought within the range of operative treatment. The method of treatment adopted must be thorough: full exposures given at regular intervals and the patient kept under observation. The treatment may be external, or, in selected cases, tubes of radium may be buried in the substance of the growth. Inoperable tumours of the breast come under this heading.

Surgical methods may profitably be combined with the use of radium, and partial operations are a great help to the radium therapist, as it is quite rational to remove as much of the tumour as is possible in order to facilitate the use of radium. A large fungating necrotic tumour of the breast is not likely to yield to radium treatment alone, but if the surgeon removes as much of the growth as possible, then radium may be employed on the portions of the tumour left. Secondary deposits in the glands and areas drained by the lymphatics may be vigorously treated by radium, and if a diminution in size is brought about these may be removed at a subsequent operation. Life may be rendered more tolerable, and undoubtedly prolonged by such measures. Several such cases treated by radium and *x* rays have shown marked improvement; enlarged malignant glands have been successfully removed after reduction in size following upon radiation treatment.

While admitting the claims of operative measures in dealing with early cases of malignant disease, and with no intention of pushing the claims of radium, I should like to quote two or three cases which were in my own, and in the opinions of several surgeons, operable, but the patients refused operation and were treated by radium.

A case of endothelioma of the soft palate with a secondary gland in the neck was operated upon for the removal of the gland; a portion of the growth in the palate removed for microscopic examination showed it to be a slowly-growing endothelioma. The palate growth was of considerable size; under radium treatment it slowly subsided and practically disappeared. The case was treated nearly three years ago; to-day the patient is in hospital for a recurrence of the growth in the posterior aspect of the soft palate. She has been quite comfortable during the time that has elapsed since she was first treated. I have no doubt she will derive benefit from further treatment by radium.

A gentleman about 60 years of age was referred to me for treatment of a growth in the right tonsil involving the soft palate and uvula. He was seen by several surgeons, but refused to have an operation performed. A section removed for examination showed the growth to be an epithelioma. A gland removed from the left side of the neck was inflammatory; a number of enlarged glands were present on both sides of the neck. Under radium treatment the growth slowly diminished in size; a portion removed later still contained malignant cells, but they were changed in character and surrounded by inflammatory products. The glands in the neck slowly subsided. To-day the patient is perfectly well and free from recurrence.

Rodent Ulcer.

Early cases are readily influenced by treatment. They quickly heal, but prophylactic doses should be given after the ulcer has healed. If the condition is quite superficial the filtration need not be great. The beta rays appear to exercise a profound change in these cases. After healing has taken place filtered doses should be used to reach the deeper parts. Even after thorough prophylactic treatment recurrences are apt to follow at longer or shorter intervals, but frequently respond to further treatment. All cases treated should be kept under observation for a considerable time in order that an early stage of the recurrence may be observed and promptly treated.

When the ulcer is large and involves bone and cartilage the prospect of a cure is not so good. Most complete and powerful dosage may fail to check the progress of the disease. These cases may be even stimulated by radium treatment and increase rapidly in size. In such cases it is better to combine surgical measures, such as scraping or excision, with radium treatment. Several cases so treated have healed and remained well.

Epithelioma.

Growths in the skin are sometimes successfully treated by radium. Here again the excision of the growth and after-treatment by radium commends itself as a rational method of cure.

When the mucous membrane is involved greater difficulty is experienced in influencing the growth favourably. Some growths of the mucous membrane of the mouth and pharynx are hardly influenced by radium.

Epitheliomata which have healed may break down later and grow rapidly. Secondary involvement of glands must be treated as well as the primary growth.

Sarcoma.

The round-celled variety seems to be the type of growth most readily influenced by radium. Large tumours may gradually diminish in size, smaller growths disappear, while secondary glands also clear up. The spindle-celled variety is not so readily dealt with, possibly because it is a more active type of growth. When the mediastinum is involved, exposures may be made over the sternum and ribs in the hope that the disease may be checked.

Cancer of the Breast.

This class of cases forms a large percentage of those sent for radium treatment.

Secondary deposits may be met with in the glands of the axillary and supraclavicular regions. These may be treated at the same time as the primary growth. Secondary deposits in the cartilage of the ribs or sternum may also require treatment. Prolonged exposures to large quantities of well-filtered radium have in several instances led to a diminution in the size of the growth.

Cancer of the Oesophagus.

This condition has been treated with a beneficial result for a time; a number of patients have gained weight and retained the use of the oesophagus up to the time they died of secondary growth in the mediastinum.

Cancer of the Rectum.

Symptoms may be relieved for a time. The radium must be passed into the stricture, otherwise it may act as an irritant to the healthy mucous membrane, and increase the distressing symptoms so common in this situation.

Cancer of the Cervix Uteri.

Radium treatment may also benefit this condition; haemorrhage and discharge are lessened, and great relief of pain is a frequent result of treatment.

Cancer of the Bladder.

If a tube can be introduced into the bladder and brought in contact with the growth, relief may be obtained.

FACTORS INFLUENCING THE RESULT OF TREATMENT.

In routine treatment by radium, the following factors should always be kept in mind, as a full consideration of all in each case will help us to foretell the degree of action and the result likely to follow from treatment:

(*a*) Type of growth and condition of patient.
(*b*) Situation of the tumour, size, etc.
(*c*) The quantity of radium used.
(*d*) The filtration employed.
(*e*) The duration of the exposure.

An improvement in the results at present obtainable by radium in the treatment of malignant disease may be obtained:

(*a*) Larger quantities of radium may be used. Up to the present the largest quantity used has been about 1 gram of pure radium salt. Far-reaching effects may be produced by such treatment, especially if the filtration is great and the exposure prolonged; yet, even with such a dose, the result in one or two cases has been temporary benefit only. The type of case so treated has been a deep-seated growth which could only be acted on by the very penetrating rays. For surface lesions the increased dosage may have a speedier effect, which should help to prevent the spread of the growth to deeper structures if it can be efficiently checked.

(*b*) A more thorough knowledge of the physical properties of radium may enable us to select for particular cases the quality of radiations likely to influence the cell metabolism.

(*c*) Improvements in the technique.

It must be admitted that the technique has hitherto been more or less faulty. A knowledge of the influence of the various thicknesses of filters may help us to get speedier results. It may be that the use of the beta rays in some cases would lead to better results. Similarly the alpha rays, which up to the present have been little used, may in the future be found to exercise an inhibitory effect upon morbid processes when they are brought into contact with the cells of a growth. The difficulty has been to apply them at all. The radio-active waters at present in use do not appear to have any influence on cancer cells when administered by the mouth.

It may be possible to deposit the active principles of the radium emanations in such a way that we can utilize them either by direct application or by ionization with the aid of a galvanic current, or a combination of radiations may be helpful. In several cases radium and *x* rays appear to have hastened reparative processes. It is possible that some of the effects noticed may be due to secondary radiations, produced in the structures composing the growth, which exercise a physiological action. Some such general action appears to take place, because it is quite a common occurrence for patients so treated to improve in general health.

The employment of radiations in any form leads to a constitutional disturbance which we designate as reaction. This varies in time of onset according to the dosage. After a time a period of depression sets in, most probably due to a change set up in the growth which leads to the liberation of toxins into the circulation. If they are excessive, the condition of the patient may be rendered serious. This form of toxaemia is met with when large rectal growths are treated. It is possible to make the condition of the patient much worse if care is not taken to regulate the dose.

Up to the present the treatment of malignant disease by radium and other radio-active bodies has been purely local. Consequently it cannot be regarded as a specific

method of treatment. The conditions under which it may become so are being investigated. The endeavour must be to procure a substance, radio-active or not, which, when introduced into the general circulation, will influence morbid processes in the tissues. It may be possible to use a substance which when treated locally by radium, *x* rays, or other agents capable of exciting the secondary radiations of such substances, will benefit the tissues.

The best we have yet been able to do has been by local stimulation to produce secondary radiations from the tissues, blood, and lymph in the deposits of cancer. When the secondary radiation value of these tissues is better known, and when we know which particular radiation acting upon them will give us their maximum value, then we may hope to improve our results.

CONCLUSIONS.

1. In all cases of early cancer the operative method is undoubtedly the best; it is quicker, safer, and offers the best prospect of cure.
2. Radium is a useful adjunct to the treatment of all cases, first as a prophylactic after operation, and, failing operation, the next best method we possess. It must, however, be stated that *x* rays are in selected cases quite as useful as radium.
3. In patients who refuse operation, or are for other reasons not suitable for operation, radium is a useful remedy.
4. In inoperable cases radium may help to render the case operable; and, failing that, is undoubtedly useful as a palliative measure.

DIACHYLON OR DUTY: A CALL TO ACTION.

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IT is now several years since I drew attention to the fact that not only is the female white lead worker more predisposed than the male to plumbism, and to the worst types of it, but that lead probably exercises its baneful influence upon her through the medium of the reproductive organs. A female lead worker, if pregnant, frequently miscarries, so that expected maternity in many instances can only be realized by women when *enceinte* keeping away from the lead works altogether. In pressing the Home Office, through the White Lead Committee, of which I was a member, to abolish female labour in the dangerous processes of lead manufacture or where lead compounds are manipulated, I based the recommendations upon the idiosyncrasy of the female sex generally, upon the disastrous effects of lead upon offspring born either prematurely or at term, and also upon the fact that most of the children born of women who work in lead die from convulsions a few hours or several days after birth. Experience has shown that by the abolition of female labour in the dangerous processes of lead manufacture, both in this country and abroad, not only has much suffering been spared and loss of expectant life to the race been averted, but that actual benefits have been conferred upon the industry itself. Public opinion is less hostile to the trade than it was, and there has been less sickness among the employed, while the manufacturers have saved considerable sums of money, owing to fewer claims than they otherwise would have had under the Workmen's Compensation Act.

Since such admitted benefits have followed the prohibition of female labour in the dangerous processes of lead-making a comparatively new problem of plumbism in female life must now be faced. Medical men in the potteries and elsewhere have repeatedly drawn attention to the fact that, for the purpose of procuring abortion, pills made from diachylon plaster are frequently taken, so that it is unfair to regard all the cases of plumbism occurring in female workers in the potteries as arising from occupation. This announcement has not been acceptable to a section of the reforming public, who, while admitting that such a practice probably exists, can only regard it as of limited extent, and as a statement put forward by interested persons to prevent further legislation for the protection of females working in lead processes in the manufacture of pottery. The self-administration of diachylon pills by pregnant women for the purpose of procuring abortion is a practice more widely indulged in and with more serious consequences than at first sight appears. The time has come when something must be done, and that at once, to put an end to a practice in some instances followed by death, though the cause is not always recognized, and in more instances by acute suffering and by protracted illness.

Several medical men have written upon the subject, of whom from memory I may allude to Dr. Handford of Nottingham, Drs. Prendergast, Shufflebotham, and Ward of Staffordshire.

During the last two years I have seen seven or eight cases of acute plumbism in married women who had taken diachylon. Two of them just escaped dying, while two others will probably never be the healthy women they were previously to their illness.

CASE I.

A woman, aged 40, pregnant, mother of eleven children, ten of whom are alive, was admitted into the Royal Victoria Infirmary under my care on June 9th, 1911, suffering from severe pains in the abdomen and great weakness of the limbs. Three months before this, believing herself to be pregnant, she took in all 40 diachylon pills. After taking two pills night and morning for ten days she became seriously ill. She had acute abdominal pain and repeated vomiting; she felt listless and was so weak that she could hardly stand. On her admission the menses had not been re-established; there was a marked blue line on the gums, absence of sulpho-cyanide in the saliva, and complaint of pains in the arms and legs. On two occasions albumen was present in the urine. A large tender mass could be felt in the lower part of the abdomen in the middle line corresponding to an enlarged uterus in the fifth month of pregnancy. On examining the blood the red corpuscles numbered 2,400,000 and the white cells 11,000 per c.mm. No lead was found in the urine by Professor Bedson. Under the administration of ½ grain of sodium monosulphite with tincture of cardamoms in water thrice daily, and an occasional opiate when the pain was severe, the patient made a good recovery, left the infirmary on July 7th, and in due course was delivered of a healthy child at term.

CASE II.

A married woman, aged 29, with four children, was admitted into the infirmary under my care on July 18th, 1911, suffering from severe pains in the abdomen and back. She was in a highly strung and nervous condition. Believing herself to be pregnant, she had taken "black stick"—a mixture of diachylon and aloes—in the form of pills, sold to her by a chemist. She took six pills night and morning for the first week, and half that number for the second week. Severe abdominal pain developed, and she miscarried on July 14th, about seventeen days after taking the first pills. For five days previously to miscarrying she had fairly free but interrupted uterine haemorrhage.

She vomited several times daily, and continued to do so for a few days after entering the infirmary on July 18th. There was neither diarrhoea nor constipation, but severe pain during defaecation. She had lost considerably in weight. Her legs were so weak that she could hardly stand. There were tremors of the lower half of the face, and also of the hands. There was not only a dark-blue line on the gums, but a patch of deeply pigmented buccal mucous membrane opposite the lower teeth. The abdomen was extremely tender, especially over the left ovarian region. The knee-jerks and the plantar reflex were lost. On microscopical examination of the blood, which was repeated on several occasions, only once were four basophile corpuscles found over the whole field. The urine was free from albumen on admission. A few days after treatment had been commenced the urine contained a trace of albumen, but this disappeared, and was never again found. On one occasion only was lead found in the urine by Professor Bedson, and that was after the commencement of the administration of sodium monosulphite, which formed the regular treatment throughout, and under which she made a good recovery, leaving the infirmary on August 28th. This woman had taken 144 pills, each of which contained 1 grain of oleate and stearate of lead.

In one woman whom I saw with Dr. Nesham at the Maternity Hospital, and who had taken a pennyworth of diachylon and a pennyworth of aloes, the abortion was incomplete, and curetting had to be resorted to. In another whom I saw with Dr. Tiplady the symptoms were those of abdominal pain and intractable vomiting, to which the patient all but succumbed. She too had aborted, and presented temporary albuminuria.

I will only mention one other case, and that with the permission of my colleague, Professor Thomas Beattie, in

whose ward I have had the opportunity of frequently seeing and examining the patient.

Case III.

A married woman, aged 24, the mother of two children born within the period of one year and two weeks, had taken "black stick" with the object of inducing abortion. Seven days after taking the drug she aborted. Two weeks afterwards she was seized with severe headache and vomiting. There was neither colic nor constipation. A month after taking the pills the right hand, and shortly afterwards the left, became paralysed, and then both legs. The muscles of hands and legs rapidly atrophied. There was a blue line on the gums, and marked naso-labial tremor. The urine was free from albumen. Professor Bedson found a trace of lead in the urine. Blood films were stained and carefully examined, but on no occasion was one basophile corpuscle found. It is now five months since this patient took ill, and although her legs have partly recovered their power, there is still almost complete double wrist-drop, so that she lies in bed in a comparatively helpless condition. It will be months before she is better, and even then it is a question as to the completeness of her recovery.

There is not the least doubt that lead is a powerful and a dangerous ecbolic. It probably acts upon the unstriped muscle fibre of the uterus, setting up strong muscular contractions followed by expulsion of the fetus. I am disposed to take this view rather than that lead destroys the fetus first. Pregnant rabbits to whom I administered lead miscarried, and in one instance so severe were the muscular contractions that the uterus ruptured.

The dangers following the self-administration of diachylon are not only that the woman may have a long and painful illness, accompanied or not by paralysis of hands and limbs, but that she may die in the attack of acute plumbism, either from intractable vomiting, acute inflammatory affections of the pelvis consequent upon incomplete abortion, or from convulsions. To my knowledge young females, married and unmarried, have been admitted into hospitals or been treated by medical men outside, and have died in convulsions or from recurrent vomiting, and at the *post-mortem* examination nothing has been found to explain either the symptoms or the death. In a few of these it was afterwards ascertained that diachylon had been taken.

What, then, is the duty of women, the Government, and the medical profession in regard to this important question? Disciples of Malthus would probably maintain that there is something to commend in the action, not the means, by which when patient Case I, in her twelfth pregnancy, with ten children alive, the eldest only 18 years of age, and her husband earning 30s. a week, finding herself pregnant, sought to relieve herself of a prospective burden by a remedy so easily obtained as diachylon. It would have been a greater and more disastrous calamity to the husband and to the family had this woman died and left ten children to be brought up, the eldest daughter being only 18 years of age. Where the means to procure abortion are attended by such risks to life and health it is the wiser plan for women not to take anything. It is the light-hearted manner in which unmarried and young married women, in their eagerness to avoid responsibilities and the assumption of tasks which interfere with their pleasure, resort to the use of diachylon that calls for condemnation.

Seeing that for two pence abortion can be procured, and that women in the guise of nurses are secretly preaching the advisability and encouraging the practice of it among the poorer working classes, also that in the full glare of daylight druggists are selling the material, surely the time has come when we might well ask the question how long the Government is going to allow this state of things to continue? It can no longer be said that the Government is ignorant of the practice nor of the extent to which it prevails. The responsibility rests with it to put a stop to a practice which is discreditable to the age in which we live, a source of danger to adult female life, and a cause of antenatal death. The sale of diachylon should be prohibited. Soap plaster can be made, and just as effectively, without lead as with it. By the prohibition two years ago of white phosphorus in the manufacture of lucifer matches, and which was also resorted to as an abortifacient, death has been averted and much suffering has been prevented. This, too, would be the case if the sale of diachylon or of lead pills, unless the latter under medical prescription, was made a criminal offence. Notification of industrial lead poisoning is compulsory; why should lead poisoning by diachylon be made the occasion of its evasion?

The attitude of the medical profession has in this matter been consistent. Its duty is simple: it is to discourage by all means the use of such a drug; to point out to women, wherever possible, the grave danger to life and health attendant upon its administration, also to comply with the wish of the Government, should such be expressed, to notify, on the same terms as those concerning industrial plumbism, the occurrence of lead poisoning by diachylon or by any other medicament.

THE USE OF CELLULOID IN THE TREATMENT OF TUBERCULOUS DISEASE OF THE SPINE.*

[With Special Plate.]

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Celluloid was first introduced into orthopaedic surgery by Phelps and Lorenz, both of whom used it for splint manufacture in the form of sheets softened in hot water. Later, Landerer and Kirch in Germany and Ducroquet and Calot in France rendered its employment more practical by conceiving the idea of dissolving the celluloid in acetone and applying the solution to woven tissues. In France its use is now very general. At Alton it has been adopted to the almost entire exclusion of other removable spinal supports, and the interest which these jackets has created is my apology for this paper.

For my acquaintance with celluloid for orthopaedic purposes I am indebted to my friend Dr. Jacques Calvé, of Berck, who first instructed me in its use and has devised a particularly ingenious and useful jacket, which is described in his paper referred to below.[1]

Chemistry of Celluloid.

Celluloid is made by gelatinizing nitro-cellulose of low nitration with an alcoholic solution of camphor. The alcohol is nearly all driven off during the subsequent process of manufacture, leaving an intimate mixture of nitro-cellulose and camphor. It is uncertain to whom its original discovery can be certainly attributed. Parkes, in Wales, early in the fifties, patented a process for preparing a substance, which he afterwards called "Parkesine," prepared from pyroxylin. In 1869 the Hyatt Brothers, in America, made xyloid, which was essentially celluloid, and in 1877 the business of Daniel Spill, who was Parkes's successor, was taken over by the British Xylonite Company, Ltd. In 1876 the Hyatt Brothers founded the first celluloid factory in France.

Transparent celluloid is a hard, tough, somewhat elastic substance of horny appearance. Its chemical composition is not constant but may vary within considerable limits according to the method of its manufacture. Its density is about 1.37. It is softened by heat, but if kept too long at a temperature of 130–140° C. slowly decomposes; at a temperature of 198° C. it decomposes instantly. It is highly inflammable. It is soluble in various substances, of which acetone alone concerns us here. It may be decomposed by concentrated sulphuric, nitric, and hydrochloric acids.†

The Advantage of Celluloid Spinal Jackets.

Jackets made of this material are light, elegant, rigid but slightly elastic, strong, are not acted upon by the heat and moisture of the body, maintain their shape indefinitely, are comparatively easy to make. Their greatest value lies in the fact that they may be made to accurately fit a cast of the patient and maintain the shape of this cast indefinitely.

The great objection to the use of celluloid is its inflammability. Impregnated, however, in woven tissues there is very little danger in its use. Both in France and in

* A paper read before the Medical Society of London.

† For kindly confirming the accuracy of this paragraph I am indebted to Mr. T. R. Brooke, of the British Xylonite Company.

England Calvé and I have made many hundreds of celluloid splints, and have never witnessed a case where its use has been harmful on this ground to patients. Neither have we been able to find any record of disaster following its use in the practice of others. Actual contact with flame is necessary before the jacket will burn, and even when it is well alight the flame can be readily extinguished. It is, however, not generally known that even this slight danger from fire can be easily avoided. Celluloid splints may be easily rendered non-inflammable. Two methods may be employed: (1) By covering the celluloid splint with non-inflammable material; (2) by making the celluloid itself non-inflammable.

As an example of the first method, the splint when made may be covered by a tissue which has been impregnated with sodium tungstate. Such a tissue is non-inflammable. The tissue may be protected by a light covering of leather, and the resulting splint at least equals in appearance one made of leather, and is more serviceable.

The celluloid splint may be covered by one of the numerous non-inflammable paints now procurable, and it has even been suggested that a light coating of potassium silicate may be used. Such expedients, however, are clumsy and not of great value, and a far better method is to render the celluloid itself non-inflammable. This may be very easily done by mixing with the celluloid in solution in acetone various substances of which the following are examples—iron perchloride, calcium chloride, magnesium chloride, salts of aluminium, the acetate or oleate of zinc, etc. Of these, after numerous painstaking and exhaustive experiments, for which I am indebted to Miss Butler, our late plaster sister, the substance which at Alton has been found of the greatest practical value is calcium chloride. Miss Butler discovered that if a supersaturated solution of calcium chloride in very hot water is added to the celluloid dissolved in acetone, the resulting mixture when dry is absolutely non-inflammable.* It retains its non-inflammability when made into a splint, and such a splint cannot be made to burn even when held in a fire. This discovery, therefore, disposes of the greatest, and indeed the only, objection which can be raised to the employment of celluloid in the manufacture of orthopaedic appliances.

Celluloid made into splints in the manner to be described, either alone or combined with metal, forms one of the most useful materials for orthopaedic appliances.

To mention but a few of the conditions in which I have used it with success, I may cite almost all forms of tuberculous joint disease, infantile paralysis, various forms of talipes, genu varum, genu valgum, Charcot's disease of the knee-joint, scoliosis, after fractures and osteotomies, etc. In some of these and in other conditions it is likely to surpass other materials hitherto employed, as, for example, in the convalescent stages of joint disease, the ambulatory treatment of fractures, and in infantile paralysis.[2] I would also suggest its value in the manufacture of artificial limbs, though, with the conservative measures adopted at Alton, such aids are rarely necessary, and I have not had an opportunity of using it for this purpose.

In this paper I propose to confine myself simply to outlining its use in tuberculous disease of the spine, and will describe the manufacture of such a spinal jacket as might be used in an ordinary case of dorso-lumbar caries. In such a lesion, when complete immobilization is required, there is no doubt that celluloid should not be employed. No form of mechanical support hitherto devised can compare with an efficiently applied plaster jacket,[3] but when the time comes when this extreme immobilization is no longer required, and when, indeed, if unduly prolonged, it might be harmful, there is no doubt that a properly made celluloid splint is the best mechanical support which can be used. Too prolonged immobilization in plaster may increase the muscular atrophy produced by the disease, and this is especially seen in cases of hip or knee disease, but it is also apparent in tuberculous disease of the spine. Prolonged immobilization in plaster does not of necessity result in fixation of the joints—indeed, tuberculous joints long properly immobilized are much more likely to recover good movement than joints inefficiently immobilized, but there is undoubtedly a period when such complete immobilization as effected by a perfectly fitting plaster jacket is neither essential nor, indeed, desirable. Such a period in the natural history of the disease is reached when it may be inferred that the lesion has consolidated and become well shut off from the rest of the body, and that the disease is apparently arrested. Limited movement, either active or passive, is now of value; and, indeed, the aid of gentle massage and electrical treatment may be invoked to further restore muscles long inactive. Now a removable jacket is indicated. The function of such a jacket should be only regarded as one of support and reasonable protection to the area affected, but not of complete immobilization, though very efficient immobilization is obtained. It, indeed, may be so designed that it will still further assist in correcting deformity which might have persisted, but the manufacture of, and indications for, a celluloid jacket adapted to such a purpose will not be considered here.

The advantage at this stage of an efficient jacket which may be removed is manifold. It affords protection in the interval between the period when complete support or protection is no longer required, but entire absence of both might be harmful. It should be worn by the patient at such times as its absence might be a source of danger—in other words, when the patient is lying in bed or resting it is not required, but when he is walking about and might presumably be exposed to extraneous injury or strain, then it is of the most extreme value. Numerous materials have been employed from time to time for this purpose, each having its own advocates, but after extensive use of every mechanical support which I have been able to try, none presents, to my mind, so many advantages as celluloid. Moreover, celluloid has this extreme value—the jacket itself can be made by the surgeon who is treating the case or made under his immediate supervision, and this is an undoubted advantage. It is not realized how much crippling results from the indefensible practice of leaving all details of mechanical support to the instrument maker. In the treatment of bone and joint tubercle skill in the application of properly designed mechanical supports is of far greater importance than mere surgical dexterity, and the surgeon-mechanic will obtain results which neither the surgeon nor the instrument-maker, working singly, can approach. To such a worker celluloid affords the most valuable assistance in the exercise of his skill. The jacket, to fulfil the necessary requirements of a spinal support, should be made on a very accurate cast of the patient, and the first step in its manufacture consists in the taking of such a cast. This, indeed, should be done with almost every form of spinal support, though unhappily it is comparatively rarely attempted, largely because of the prevailing ignorance of plaster technique.

Method.

There are various ways in which a suitable cast may be taken; but I shall confine myself to describing one simple and practical method.

The patient is suspended from a suitable gallows by a bridle applied to the chin and occiput so that the spine occupies the desired position. This position varies within considerable limits but in the majority of cases should be one of slight hyperextension. Suspended from the gallows in the selected manner, he is thoroughly anointed with warm olive oil and a plaster bandage is applied around and on to the trunk from below upwards, commencing below the right iliac crest encircling the trunk at the level of the pubis and gradually rising until the shoulders are reached. The thickness of two or three turns of the plaster bandage is all that is required. The shoulders are taken in by turns of bandage being passed from chest to back and vice versa and fixed by a further turn around the trunk, and just before the cast is setting the crests of the ilia, the pubis, and the sacrum are very carefully moulded. The counterpoints of application in such a simple jacket as this would be the two clavicles, which are moulded also with the greatest care, and behind the negative must be accurately applied to the whole length of the spine and to the two scapulae. A point to be ever borne in mind in making any jacket for dorsal caries which can have any pretence to efficiency is that

* Three ounces of calcium chloride should be added to 2 oz. of boiling water. The resulting mixture, added to 150 oz. of celluloid of low nitration, dissolved in acetone, will render the celluloid non-inflammable.

possibility of flexion of the spine by the patient must be prevented. Hence the importance of careful moulding about the pubis and its counterpoint the clavicles, or in a high jacket the mastoid processes and occiput. In other words, the distance between the *points of application* should be constant. Very rarely is it insisted that a jacket should take proper purchase from the pubis, and this is obviously essential if the jacket is to be efficient. In applying the plaster the greatest care must be taken to pleat each turn of the bandage so that the resulting negative shall occupy the greatest bulk of the trunk and not cause any compression of the thorax or abdomen.

As soon as set, the jacket is cut up laterally in the way shown and gently removed from the patient. The jacket should be removed just as its set is completed, and it will be noted that at this moment every movement of respiration is accompanied by slight sucking noise as the skin recedes from the now firm negative. When the jacket has been slipped off the patient it is allowed to thoroughly dry, and the cut edges are accurately apposed and fixed together by another plaster bandage which encircles the negative. The holes for the arms and the base of the jacket are covered over likewise with a plaster bandage. This being done, the inside of the jacket is carefully oiled again, and the negative thus produced is allowed to thoroughly dry, which at an ordinary room temperature takes three to four hours.

Making the Positive.

Into the oiled negative fluid plaster of Paris is poured, which plaster is prepared by adding five parts of water to three of dry plaster. Cheap plaster of Paris is sufficiently good for this purpose. The negative may be placed in a box full of sand or sawdust which will support it all round and the open neck end alone left exposed, or, if preferred and sufficiently strong, filled without such support. Before the plaster sets a substantial piece of wood is thrust down the centre and forms a convenient projection for subsequent manipulation. As soon as the plaster has set the negative is removed and the positive is left ready for further treatment. This treatment consists in carefully modelling above the pelvic brim and accentuating its outline so that the grip on the pelvis may be secured with certainty and precision. This carving of the cast is of great importance and requires care and skill. The plaster to be removed is cut away with a strong long-bladed knife. The subclavicular fossae are also sculptured. The whole of the cast is then covered with an additional thin layer of plaster which will increase its bulk slightly in all directions, and thus ensure the jacket which is to be made on it being of comfortable though perfect fit. On to the positive thus formed the splint has now to be made.

Making of the Celluloid Splint.

The fluid celluloid, which has already been referred to, has the power of thoroughly impregnating any loose texture to which it is applied, as, for example, vesting or gauze. When applied the acetone evaporates, and leaves the celluloid deposited as a solid. The most effective way of making a splint is to place over the cast a vest of cotton which is slightly smaller than the cast, and which can be very accurately applied to it. Frequently parts of the vest have to be stitched to secure accurate approximation. This vest may be pinned to the bottom of the cast and on to the neck and the armholes with ordinary drawing pins. It may be accurately applied to depressions in the cast, such as those about the iliac crests, by means of either tape or cotton drawn tightly over these depressions and fixed at appropriate intervals with drawing pins. This being done, it will be found that the vest now is correctly adapted to the shape of the cast made, and on to this vest is painted with an ordinary stiff brush a coating of the celluloid solution. It is very desirable that this solution should be thoroughly worked into the vest. It will be found that when the acetone has evaporated and the celluloid is left deposited on the vest, there are probably numerous places which have not received a sufficient quantity of celluloid, and therefore two, three, or more coats should be painted in turn on the vest. When a sufficient quantity of celluloid has been incorporated, a layer of thin muslin—ordinary book-muslin unstiffened—is applied to the cast in two pieces, one to occupy the front and the other the back, the two parts overlapping at the sides, and the celluloid is then worked into this. This process is repeated until it is estimated that the jacket has attained sufficient strength, each layer being allowed to dry before the next is applied. It will be found that the number of layers of muslin with incorporated celluloid will vary usually from ten to twenty. For small children the former will be sufficient, but for adults the latter will be required. It should be noted that those parts which will have a special strain placed upon them—as, for example, round the points of application of the jacket to the pelvis—a greater thickness may be required, and this can easily be obtained by placing a small additional piece of gauze in the appropriate situations and impregnating these with celluloid at different stages of the manufacture of the splint.

When the last layer of muslin has been applied, and that has thoroughly dried on to the splint, two or three more coats of celluloid should be painted on to ensure that the splint should have that smooth and elegant appearance suggestive of a highly polished surface, which adds so much to the attractive appearance of the finished celluloid.

It will be found that between each layer of muslin which is applied, and which is coated with celluloid, an interval of from five to ten hours should elapse to allow the acetone to evaporate and the splint to dry. Great care should be taken in the manufacture of the splint that no air bubbles are allowed to remain between the different layers, and that each layer is in the most accurate apposition to the layer subjacent. Otherwise the strength of the splint will be diminished and the layers of celluloid may tend to separate in laminae.

The application of the celluloid having been concluded the splint must now be removed from the cast and this may be done in various ways, according to the inclinations of the surgeon. For a simple spinal jacket as is here described, the easiest way is to cut through the splint in the middle line anteriorly from top to bottom. The edges around the armholes and neck and bottom of the pelvis are carefully trimmed, and the splint can now be removed from the positive. It is now very desirable that the splint at this stage should be tried on the patient and the patient resuspended for this purpose. The splint having been put on the suspended patient it is a wise plan to tie it on the patient round the middle of the trunk by a piece of bandage, and on to the jacket thus applied lines are marked with a suitable pencil to indicate those parts which need not be retained. The first essential is to see that the splint thoroughly fits the pelvic brim and is accurately in apposition with the pubis, both iliac crests, and the sacrum. Above it must accurately fit the clavicles, and behind it should lie in close apposition to the spine.

A large ventral window should now be marked, and this cutting out of a ventral window is very important in securing a perfect fit, for it will be seen that the dimensions of the patient's trunk varies according to the amount of air inspired or expired from the lungs, and to the distension or retraction of the abdomen. The ventral window allows these alterations in the bulk of the patient to take place without in any way impairing the fit of the jacket or interfering with the support and protection it will give; while, if such a window is not cut out, it will be at once seen that the jacket will either be too tight or too loose for it to be of really complete value. It is to be regretted that spinal jackets made in this country rarely have effected this very simple expedient for their accurate fit. The lower part of the jacket should be cut somewhat in the manner shown in the figure, so that, while securing accurate apposition to the pelvic brim, there shall be ample allowance made for any movement of the thigh.

In front the lower border of the splint corresponds with the upper border of the pubis, at the sides to a point about the middle of Poupart's ligament and just over both great trochanters. Behind, its lowest limit should be the uppermost portions of the natal cleft. Above, it should be cut well away around the arms, so that free movement of the arms is obtainable. The moulding around the clavicles will ensure that the shoulders are kept pressed backwards. The moulding around the pubis will prevent forward flexion of the spine, and the spine will be maintained in an extended position consistent with comfort. It may not be out of place here to enter protest against the too frequent use of

H. J. GAUVAIN: CELLULOID IN TUBERCULOUS DISEASE OF THE SPINE.

FIG. 1.—Patient who has suffered from tuberculous disease of spine, with double psoas abscesses, suspended and plaster applied to the trunk for a cast.

FIG. 2.—The negative being cut off the patient's trunk.

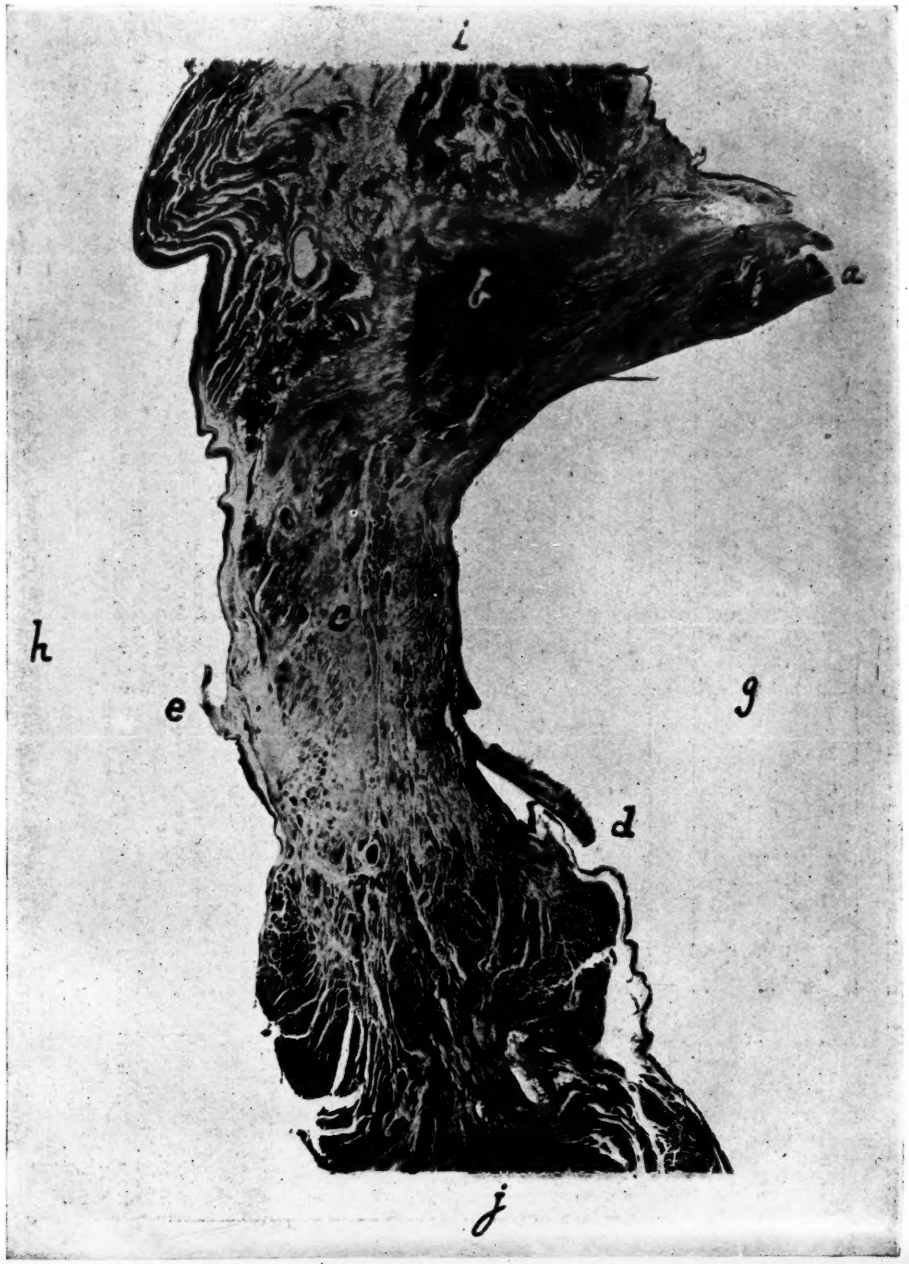
FIG. 3.—Removal of the negative.

FIG. 4.—Manufacture of the positive. Plaster cream being poured into prepared negative.

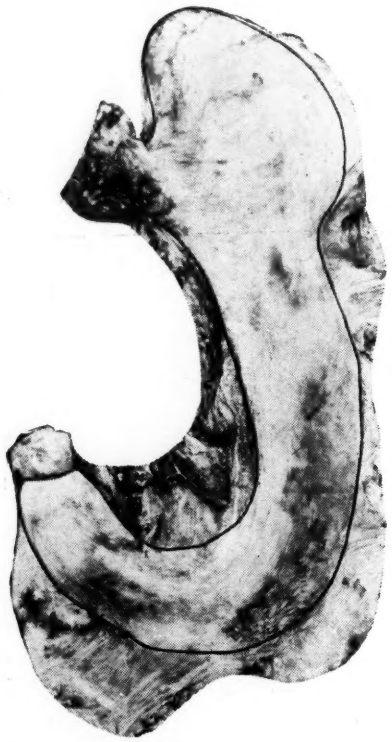
FIG. 5.—Negative being removed from the positive.

FIG. 6.—Positive complete with vest applied.

FIG. 7.—Patient with jacket complete.



J. S. B. STOPFORD: SHAPE OF THE NORMAL EMPTY STOMACH.



Photograph of specimen. The outline of the stomach is indicated by the continuous black line.

axillary crutches, which are employed with the mistaken idea that they give the spine some support. The use of these crutches has been well deprecated by Vignard and Monod,[4] whose observations on them may well be repeated here: "They constitute one of the gravest faults in the old-fashioned spinal jackets. Their object is, as has been already said, without doubt to support the spine by the aid of the shoulders, but raise the shoulders and you will appreciate their inefficiency. Movement of the shoulders in the vertical direction which this action causes the axillae to undergo shows that it is only when having pressed up the shoulders to the extreme limit of their possible excursion that the axillary crutches can have any effect. These movements of ascent are partly limited by the serratus magnus muscle which, attached to the scapula, acts on the ribs and not on the spine. Only the lower slips of the trapezius muscle can furnish the means of useful action, and this action on the spine is really only an apparent one. The raising of the axillae is accompanied by a swinging movement of the scapula in its lower angle. The muscles which resist this swinging movement are the rhomboidei which are attached to the lower cervical and upper dorsal vertebrae, which vertebrae are thus drawn from above downwards. The exaggerated raising of the shoulders by the axillary crutches produces a compression of the spine and not stretching, which stretching is, on the contrary, only possible when the shoulders occupy the lower position.

"Untenable from anatomical considerations, on physiological grounds still stronger objections may be made to the use of axillary crutches. Even light, long-applied axillary pressure causes a strain which is uncomfortable, and may, indeed, be painful. The action on the respiratory movements is still more important. The raising of the shoulders has an enormous influence on the respiration. It corresponds to forced inspiration. The shoulders remaining high, it is impossible for the patient to accomplish complete expiration. Indeed, it is as bad to keep the thorax in a position of inspiration as it is to impede thoracic movements by compression. For these reasons, then, the use of axillary crutches should be abandoned, and the shoulders should be allowed to remain free, but pressed backwards and somewhat downwards."

The Completion of the Celluloid Jacket.

The splint having been cut out in the manner indicated, the edges may be bound and stitched with leather and suitable hooks, eyelets and buckles inserted into the celluloid. The splint is then to all intents and purposes completed. Nothing more is really essential, but it may be found advantageous to strengthen it with light steel as figured, though this is not by any means essential. From hygienic reasons it is desirable to punch numerous holes in the jacket to allow sufficient ventilation of the subjacent skin.

Such a jacket will be found of the greatest value to patients being treated in the convalescent stages of spinal caries. Its weight is negligible, it affords no obstruction to respiration or digestion, the support and protection it affords is ample, and the comfort and security it confers upon the patient renders it of unequalled value in mechanical treatment at this stage of tuberculous disease of the spine.

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A CASE OF COMPLETE AURICULO-VENTRICULAR HEART-BLOCK.

WITH A REPORT OF THE PATHOLOGICAL CONDITION OF THE HEART.

BY

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[WITH SPECIAL PLATE.]

In the Schorstein Lecture which was delivered by one of us (T. W. G.) at the London Hospital last October, and published in the BRITISH MEDICAL JOURNAL on October 12th, mention was made of a case of complete auriculo-ventricular heart-block which presented some points of special interest. The patient died of pneumonia, and the examination of the heart was undertaken by one of us (A. M. K.). A preliminary note of the condition found was given in the lecture. The examination has now been extended and completed, and it is believed that the record will prove of greater interest if the paragraphs and figures in the lecture dealing with the case are reproduced. These were as follows:

DESCRIPTION OF PHOTOMICROGRAPH ON SPECIAL PLATE.

Section of cardiac septum cut in the direction described in the text. Magnification 8. Shows the great atheromatous thickening of the anterior mitral cusp (ventricular aspect) and the slight calcification present at the base. Dense fibrosis is seen to spread inwards into the cardiac tissue and across the membranous septum to the aortic cusps. The auriculo-ventricular bundle was involved in this fibrosis and its continuity completely broken. *a*, Anterior mitral cusp, greatly thickened by atheroma; slight calcification is present. *b*, Dense fibrosis spreading into cardiac tissue from anterior mitral cusp. *c*, Pars membranacea septi, enormously thickened and shortened by fibrosis spreading from the mitral to the aortic cusps; ventricular muscle fibres are seen mixed up with the fibrous tissue. *d*, Aortic cusp. *e*, Tricuspid valve. *f*, Portion of auriculo-ventricular node. *g*, Left ventricle. *h*, Right ventricle. *i*, Interauricular septum. *j*, Interventricular septum.

The tracing Fig. 38 [p. 1204] is from the case of a member of our own profession, and was taken when the patient was 81 years of age. The ventricles were beating at 40 and with great regularity, as all the pulse periods are seven and a half fifths of a second, except the few which are marked otherwise. The auricular beats are rather less than double* the number of those of the ventricles; they have no constant relationship to the ventricular beats, and we have here the additional evidence of the block being complete, in the fact that the auricular rhythm is markedly irregular, but that there is no reflection of this irregularity in the pulse.

There is another peculiarity in the tracing to which I desire to call attention. When a premature contraction of the auricle occurs it is followed by an interval which is seldom longer than those which separate the systoles of the auricle which occur about the same time. Now it is possible that this may represent nothing more than a sinus arrhythmia; but as it is clear that there is a profound interference with the conducting functions of the heart, I venture to suggest the possibility of another explanation, which I admit is highly problematical, and which I advance purely in the hope that others may meet with cases to confirm or to confute it. We have already seen that in complete auriculo-ventricular heart-block premature contractions of the ventricle are not followed by any compensatory pause. Let us apply the explanation of this to the possibility of a sino-auricular block, as suggested by the lower outline in the diagram I have already used (Fig. 32). When

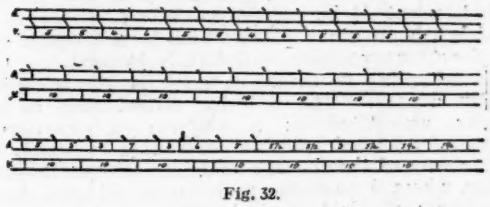

Fig. 32.

the sinus rhythm is dominant, we have seen that a premature contraction of the auricle is followed by a pause which is more or less complete according as the stimulus does not or does pass back to disturb the rhythm of the sinus. If, as the latter part of the diagram shows, the auricle may be supposed, in

* In the report of the lecture an unfortunate slip occurred, the word *half* appearing instead of *double*.

consequence of a block, to be emancipated from the influence of the sinus, a premature beat on its part would be followed by an interval of the usual interauricular length.

The patient was a man of active habits, and up to the time of his death, which occurred two years afterwards, was in the habit of walking some five miles a day. His daughter told me that as long ago as the early seventies she remembers her father being subject to peculiar attacks. Sometimes when making up medicine in his surgery he would suddenly, after apologizing to those who were present, lie down on the floor for a few minutes as if overcome by a feeling of faintness, and then resume his work as if nothing had happened. Of these attacks the patient had no recollection during all the time, some two years or more, that he was under my immediate observation. I saw him about eighteen years ago, when he had influenza, and my notes show that during the moderate fever which prevailed his pulse varied from 104 to 112. What the pulse-rate was in the interval I cannot tell. He had often had attacks of giddiness, but of late years these had got much less frequent, and for some time they had ceased. There was some tendency to cyanosis; the arteries were very atheromatous; the systolic blood pressure was as high as 260, and about the end of May of this year, though he was still rather a wonderful man for his age, and continued his active habits, he appeared to me to be failing. I was asked to see him early in June by his medical attendant. He was clearly suffering from pneumonia of a low type, and he died at the end of the sixth day. A tracing of the radial pulse on the third day of his illness (Fig. 39

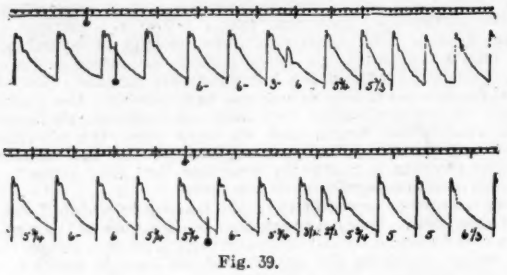

Fig. 39.

shows that the pulse-rate had risen to about 50, and it never rose above 60. The upper tracing shows a premature systole, and the lower two in succession, without in either case a compensatory pause.

The pathological examination of the heart shows that there is a generalized hypertrophy of the cardiac musculature, and dilatation of both auricles and of right ventricle; the left ventricle is contracted in systole, and there is an excessive deposition of fat on the surface of the heart. There is some superficial atheroma of the aorta, and, about 1½ in. above its valves, there is a large thick atheromatous patch which is softened in its centre; the coronary arteries are slightly fibrosed.

The mitral orifice is normal in width but the tricuspid is slightly dilated. The anterior mitral cusp on its ventricular aspect shows a uniform atheromatous thickening of its basal half, and extending outwards in strands to some of the chordae tendineae, and at its left-most edge, where it meets the posterior mitral cusp, there is a small area of calcification about the size of a lentil. This atheromatous area on the anterior mitral cusp extends inwards and spreads on to and involves the adjacent half of the pars membranacea septi, so that it must at least pass over the auriculo-ventricular bundle. Some of the chordae tendineae are thickened—a chronic atheromatous thickening—and the tips of the papillary muscles show some degree of fibrosis. There is fibrosis of the endocardium of the left ventricle just below the attachment of the mitral valve, and this fibrosis is distinctly evident over the situation of the auriculo-ventricular bundle—namely, below and behind the pars membranacea septi. In this situation the fibrosis is seen to be continuous with the atheromatous thickening of the anterior mitral cusp along its attached margin bordering the anterior edge of the pars membranacea septi.

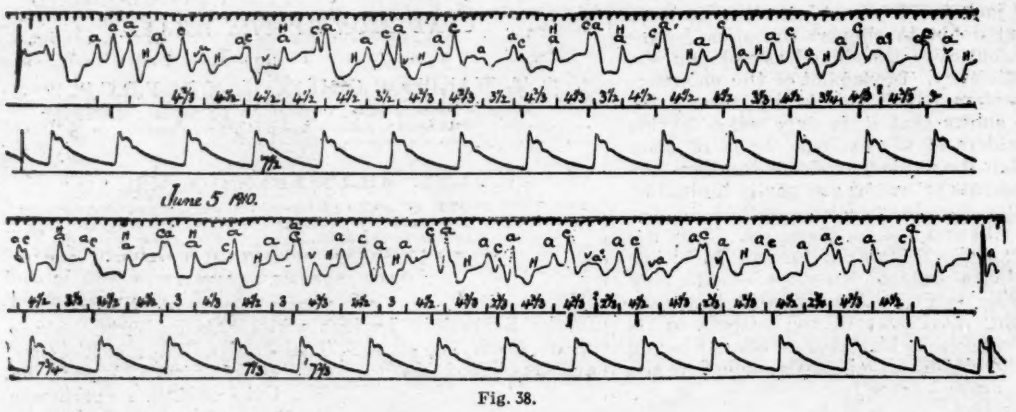

Fig. 38.

There are no other valvular lesions.

A block of tissue was removed from the cardiac septum, which contained the pars membranacea septi, the adjacent portions of the auricular and ventricular muscular septa, the central fibrous body, and the attachments of the anterior cusp of the mitral valve and the septal cusp of the tricuspid valve. The block extended sufficiently far back to include the mouth of the coronary sinus, and it was cut out in such a manner that its long antero-posterior diameter was at right angles to the long axis of the heart. Such a block includes the whole of the auriculo-ventricular node and main stem of the auriculo-ventricular bundle and a portion of its two principal branches. It was cut in serial sections from above downwards in the horizontal plane, and a series at intervals of five were mounted and stained with haemalum and van Giesen's stain.

Examination of the sections shows enormous dense fibrosis at the base of the mitral valve, extending outwards as a thickened atheromatous plaque on the ventricular aspect of the anterior mitral cusp and inwards to the auriculo-ventricular node. The fibrosis extends downwards into the ventricular septum as a very thick and very dense layer; this layer extends from the endocardium of the left ventricle inwards to the auriculo-ventricular bundle, forming a thick mass along its left side, and extending underneath it, and appearing also along its right side, though here it is less abundant. The thick fibrous layer on the left side of the bundle can be easily followed from the mitral valve to the aortic valve, at the base of which it again increases in bulk. The normal space between the bundle and cardiac tissue proper is almost completely obliterated, and, particularly from the left side, strands of fibrosis can be seen extending into the bundle about its middle from the greatly thickened sheath, and so breaking the continuity of the main stem.* The left side of the node and the whole length of the main stem of the bundle are thus enclosed in a dense thick sheath, the thickening of which underneath the bundle raises the latter up, so that on leaving the node it takes a curved course upwards and then downwards to enter the ventricle; this gives the convexity towards the auricle, which has been described as normal, but which in this case is exaggerated and certainly abnormal.

In the dense fibrosis at the base of the mitral valve, along the left side of the bundle, and at the base of the aortic valve, there are areas of calcification. In the auricular tissue above the node there is probably some excess of fat, and a short distance below the node there is some fatty infiltration in the bundle visible as numerous large globules. The small arterioles in the node and bundle and cardiac tissue generally show well marked thickening and considerable periarterial fibrosis. The principal vein from the node and its tributaries show recent thrombus within them—a terminal formation, but the main trunk is not completely occluded.

* The preliminary note in the report of the lecture is not quite accurate; the continuity is completely interrupted.

There is fibrosis and slight calcareous infiltration in the ventricle, particularly on the left side.

A block of tissue, to include the sino-auricular node, was next removed from the junctional region of the right auricle and superior vena cava, and cut in serial sections, which were mounted and stained as above described.

Examination of the sections shows that the excessive deposit of fat, already noted on the surface of the heart, infiltrates into the right auricle in the sino-auricular nodal region, causing considerable alteration. The nerve endings in this region are all conspicuous, and a considerable number of the ganglion cells are visible, but there is apparently a scarcity of the true "nodal tissue" fibres and abundant fatty infiltration instead; there is also periarterial fibrosis.

The main bundle of the auriculo-venticular junctional system being the path by which the auricular contractions are transmitted to the ventricles, it may be inferred from the pathological findings alone in this case that a condition of complete auriculo-ventricular heart-block was present during life. Regarding the pathological changes in the sino-auricular region, it does not seem justifiable in the present state of our knowledge to make a definite statement as to what their effects on the cardiac rhythm would be. One must simply record the facts, clinical and pathological together, and await further confirmation.

THE POSITION AND FORM OF THE NORMAL HUMAN STOMACH.

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It may be generally admitted that the normal human stomach exhibits many variations of form, dependent on temporary physiological or permanent anatomical causes.

From personal observations I am of opinion that the normal stomach is, in the majority of cases, a four-chambered organ (Figs. 1–12) composed of the following parts:

1. Cardia and fundus (Fig. 1, c).
2. Pyloric vestibule (P. V.).
3. Pyloric antrum (P. A.).
4. Pyloric canal (P. C.).

The constriction forming the pyloric vestibule between cardia and pyloric antrum may form a definite tubular canal (Fig. 5), or it may be a deep V-shaped notch in the greater curvature (Figs. 3, 6, and 9), producing often a typical hour-glass contraction. There is usually a considerable thickening of the muscular wall of the organ in relation to the pyloric vestibule and the pyloric canal. Out of twenty stomachs taken consecutively from subjects in my dissecting-room the majority showed this form (Figs. 1, 2, 3, 4). All these subjects were preserved by the same method—an injection of a mixture of equal parts of pure carbolic acid, pure glycerine, and water.

The variations from this type are due to repression of one or more of the parts referred to or to confluence of one with another of certain parts of the organ.

The commonest variation is due to repression of the *pyloric antrum*, so that the pyloric vestibule and pyloric canal form one continuous tubular passage (Fig. 7). Less common is the form in which the pyloric vestibule is absent and the cardia and pyloric antrum are confluent (Fig. 8).

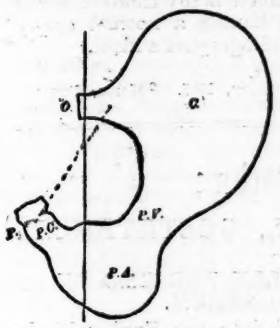


Fig. 1.

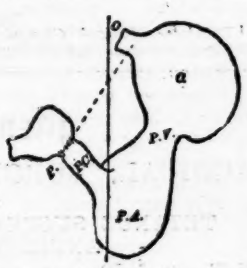


Fig. 2.

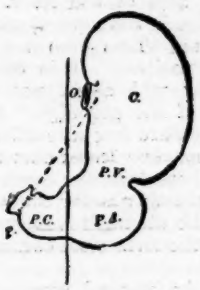


Fig. 3.

Fig. 4.

O, Oesophagus. C, Cardia. P. V., Pyloric vestibule. P. A., Pyloric antrum. P. C., Pyloric canal. P, Pylorus.

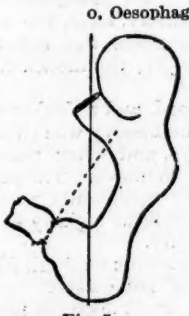


Fig. 5.

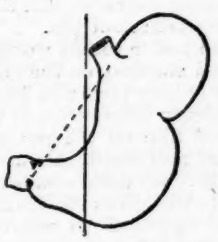


Fig. 6.

Fig. 7.

Fig. 8.

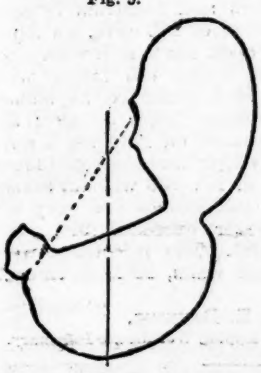


Fig. 9.

Fig. 10.

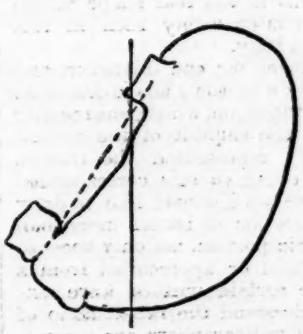


Fig. 11.

Fig. 12.

In the series are two examples of extreme conditions. In one case (Fig. 10) the stomach is contracted into a narrow thick-walled tube extending from oesophagus to pylorus, with a small thin-walled fundus to the left of the oesophageal opening. In the other case the stomach is wholly distended, with only a slight constriction near the pylorus (Fig. 11).

In any consideration of the form of the stomach, its position and connexions must always be regarded as of fundamental importance in determining its shape.

The chief alterations of form occur in the pyloric half and along the greater curvature.

Two main causes, in my opinion, are responsible for the form of the stomach and its variations. The less important factor is the relation of the organ to the vertebral column and the structures which lie in front of it—diaphragm, aorta, etc. The projection forwards of these structures may have an influence in producing lateral dumb-bell-like dilatations, with the pyloric vestibule as an isthmus between them.

The more important factor is to be found in the mechanical supports of the stomach. The organ is slung from two main attachments—on the one hand by the diaphragmatic connexions of the oesophagus; on the other hand by the connexion with the liver of the pylorus and the first part of the duodenum. It is obvious that these two points are only relatively fixed. Both undergo changes in position along with the movements of the diaphragm, and the position of the second point is influenced by the position and size of the liver. An oblique line (shown as a dotted line in the figures) may be drawn between these two points. This line may be regarded as fairly constant in position. It is obvious that any change in its obliquity will affect not only the position but also the shape of the stomach. Along this line the stomach sags. There are few alterations of importance in the form of the concave lesser curvature, whereas alterations, dilatations and constrictions, commonly occur along the more mobile and plastic greater curvature.

An hour-glass contraction of the stomach is not necessarily pathological. Indeed, it is the form most commonly found in the dissecting room.

Fig. 12 shows the outline of the normal stomach in a black line (*A A*), with the several varieties in dotted lines (*1, 2, 3, 4*).

A NOTE ON THE SHAPE OF THE NORMAL EMPTY STOMACH.

By J. S. B. STOPFORD, M.B., Ch.B.,
SENIOR DEMONSTRATOR OF ANATOMY, UNIVERSITY OF MANCHESTER.

[With Special Plate.]

Whilst performing an autopsy on an elderly woman who had died from malignant disease of the ovary only a few hours previously, I had the good fortune to find the excellent example of an empty stomach figured in the plate facing page 1203, which conforms precisely to what the radiographers tell us is the real shape of the stomach in the living, but is so rarely seen in this characteristic form in the dead body.

The viscus was tubular, except for one dilatation, and its outline corresponded exactly with the J shape described by Barclay[1] and Hertz.[2] This dilatation, which was roughly cone-shaped, was situated at the summit of the vertical cardiac portion and obviously represented the fundus. The vertical portion of the organ *in situ* corresponded with the description of Hertz,[2] but I should like to draw particular attention to the direction of rather more than the terminal inch of the pyloric portion, not only because it cannot possibly be understood or appreciated from a photograph, but also because certain writers have expressed their inability to understand the relationship of the stomach to the liver if the radiographers are correct. The alteration in direction of this part of the "horizontal" limb was very marked as it passed backwards, upwards, and to the right to come into relation with the visceral surface of the liver. Great difficulty has been experienced in understanding how the recurved portion of the J reached the gastric area of the liver; and in order to believe and realize the shape and position of the stomach as seen by the radiographers, it has to be more or less presumed that the terminal portion of the "horizontal" limb must be directed backwards, upwards, and to the right to reach the liver when the stomach is empty. On this account it is interesting and instructing to find that this was found in a case illustrating what the radiographers have shown to be the empty stomach.

The photograph shows clearly the very oblique oesophageal entrance and the incisura cardiaca between the oesophagus and the fundus.

The recent advances in radiography have revolutionized our ideas of the anatomy of the stomach, and attention is no longer paid to the "sac-like" and distorted specimens seen in the dissecting-room, as it has been repeatedly proved that they are untrustworthy and unreliable; but I consider this specimen worthy of attention, because it illustrates so well the outline of the normal empty stomach as demonstrated by the Roentgen rays.

The normal stomach is subject to the greatest variation, as is evidenced by the numerous descriptions published by anatomists; and it is only since the advent of radiography that correct differences in shape have been realized between the empty, the partially full, and the full stomach.

It is generally admitted now that a correct knowledge of the anatomy of the normal stomach can be acquired only by supplementing what is learnt in the dissecting-room by what is seen in *x*-ray examinations; but for reasons which have been explained many times of late it is rare to be able actually to handle a normal empty stomach that conforms to the radiographer's ideal.

References.
[1] Barclay, *Medical Chronicle*, January, 1913. [2] Hertz, British Medical Journal, September 23rd, 1912.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TETANUS SUCCESSFULLY TREATED BY ANTITETANIC SERUM.

W. T., aged 30, was admitted into the Epping Workhouse Infirmary on the evening of April 22nd, suffering from tetanus. His body was absolutely rigid, the head immovable, the hands tightly clenched, the forearms pressing the chest, and the legs straight; the mouth could be opened about ¼ in.

He had a recent wound on the head, and a foul wound of old standing on the left shin. The history was that he had felt his jaws stiff for several days, and when walking suddenly fell down, and was unable to move. The police found him on the ground. His only complaints were of great and constant thirst, and the painful rigidity of his limbs. He could swallow liquids easily.

He was given 100 c.cm. antitetanic serum on April 23rd; this appeared to relieve his jaws somewhat. After another 100 c.cm. on April 25th he could open his mouth to half an inch, and the fingers and forearms became movable. After a third injection of 100 c.cm. on April 27th he could move his head, open his mouth with ease, move his arms, and bend his knees, the latter with difficulty; the rigidity of the back remained as before. He now developed an erythematous rash all over the abdomen, and when this disappeared on May 4th I gave him 60 c.cm., and within twenty-four hours he could move his legs comfortably and turn in his bed without assistance. All through he had no opisthotonos and very few spasms. The temperature never exceeded 99°. His further progress was uneventful. The injections were made in the anterior abdominal walls, 50 c.cm. on each side.

C. E. Denning,
Medical Officer, Epping Workhouse Infirmary.

THE VALUE OF EMETINE IN LIVER ABSCESS.

The patient in the following case, a woman aged 40, with a history of alcoholism, had a severe attack of dysentery about a year ago, and this had continued off and on in the form of diarrhoea up to the time I saw her. There was a clear history of excessive drink. About four months ago she had started getting high fever with rigors, and later on this fever abated a little and was unattended with

rigors. About the end of this period she was seen by Dr. A., who on three occasions aspirated her liver and removed large quantities of pus mixed with blood (30 oz., 29 oz., and 21 oz.). But the pus continued to collect, and the patient was getting weaker, so it was suggested that the abscess should be opened up, but the patient being unwilling to submit to such an operation I was consulted on March 13th this year. I found her extremely weak, anaemic, and emaciated, with enlargement of the liver extending almost to the umbilicus in the median line and about 6 in. below the right costal arch in the right mammary line. The swelling due to enlargement of the liver was quite distinct and visible. She had severe throbbing pain in the region of the liver, and was unable to lie on that side. She was having five liquid yellow motions daily without any griping pain, and the fever ranged between 99.8° in the morning and 103° in the evening. It was distinctly of hectic type, and she had hectic flush on the malar bones. She was not even able to sit or move in bed. She had nausea, and was unable to take her food. I prescribed ¼ grain of emetine dissolved in distilled water to be taken thrice a day.

Within a week the temperature came to normal and remained normal; the diarrhoea stopped, and the pain in the hepatic region diminished. The swelling gradually began to diminish, and in a month the liver returned to its normal dimension; pain completely ceased, she was able to walk and had an appetite; anaemia disappeared, and she began to gain weight. She had altogether 21 grains of emetine.

During the treatment I noticed two things: First she had oedema of the face and feet, most probably due to excessive work being thrown upon the kidneys as a result of absorption of pus; it was relieved by diuretine and digitalis. Secondly, anaemia increased, most probably owing to the haemolytic effect of the pus absorbed. This was treated by haematogen.

My object in publishing the case is, first, to impress upon medical men that emetine is efficacious even when suppuration has already taken place, and second, that it is equally efficacious when given by the mouth.

S. MALLANNAH, M.D., D.P.H.,
Bacteriologist to H.H. the Nizam's Government, Hyderabad, Deccan.

TREATMENT OF PUERPERAL ECLAMPSIA.

I AM much interested in the article on page 70 of the Epitome of Current Medical Literature (JOURNAL, May 3rd, 1913) on the condition of the kidneys in eclampsia. Zinsser states that the convulsions are regarded as the signs of oedema of the brain. It would thus appear to be more rational to aim at the treatment of the oedema than of the defect of the kidney. Such a theory is in accordance with what physiologists teach us, namely, that our nerve cells are being drowned by the failure of the elimination of fluid from the system, and I had the opportunity of seeing a case treated on that theory, which recovered, as the consultant said she "had no right to do." The treatment by very small frequent doses of potassium bitartrate caused increased diuresis, and the patient improved. That drug was stopped and the symptoms again increased. Slight jaundice being noticed, the urine was found to contain leucine and tyrosin, and on the theory that acute yellow atrophy of the liver was present, a very grave prognosis was given. The treatment by potassium bitartrate was resumed, diuresis again occurred to a remarkable extent, and the symptoms of eclampsia simultaneously subsided. The patient made an excellent recovery, and is still alive. Such a case seems to support Zinsser's rational treatment.

Hawick. JOHN HADDON, M.D.

PAROXYSMAL HAEMOGLOBINURIA.

DR. E. W. SQUIRE informs us that a case which was recorded at page 768 of our issue for April 12th as one of paroxysmal haemoglobinuria has turned out to be a case of haematuria, but that the cause of the condition has not yet been discovered.

THE late Sir H. R. Swanzy, M.D., of Dublin, left personal estate in the United Kingdom valued at £12,487.

Reports
ON
MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

LONDON HOSPITAL.

CASE OF PERFORATING WOUND OF OESOPHAGUS AND AORTA BY FISH BONE.

(By CHARLES JOSEPH TAYLOR, M.A., B.M., B.Ch.Oxon., M.R.C.S., L.R.C.P.)

[Under the care of Dr. WARNER.]

A YOUNG woman, aged 22, by trade a box maker, presented herself in the receiving-room at 3 p.m. on February 14th, 1913.

History.

She stated that on February 9th she was eating some fish, when something seemed to stick in her throat. She tried to vomit, but could not. She then felt an uncomfortable sensation as of something sticking in her stomach; this persisted from that time onward up to her coming to hospital. She had been unable to swallow anything but slops since February 9th. On the evening of February 13th the feeling of discomfort gave way to a heavy choking sensation, accompanied by a strong desire to vomit with inability to do so. The stifling feeling prevented her from lying down; she could not sleep, and there was great discomfort in breathing, as she felt as if there was a weight on her chest. Inquiry into her previous health elicited the fact that on and off for four years she had suffered from "indigestion"—vague discomfort after meals with flatulence and a desire to vomit, though she never actually vomited.

Progress.

Whilst waiting in the receiving-room she suddenly vomited about two pints of bright red arterial blood. Her pulse became thready, and its rate rose to 160 per minute. She was somewhat blanched and very frightened. She was at once admitted to Dr. Warner's wards. By the time she had been put to bed her condition was much improved. The pulse was rapid, 116, but the volume and tension were fairly good. She was quite comfortable, and said she felt better than she had done all the week. Her colour had returned, and she was lying quite quietly. Examination showed her to be a well-developed and well-nourished young woman, with no physical signs of disease either in the abdomen, heart, or lungs.

Her condition remained the same till 4.30 a.m. on February 15th, when she again vomited about one and a half pints of bright red blood. She was given a hypodermic injection of morphine sulphate ¼ grain, and went to sleep. When seen about 11 a.m. the pulse was 116 and the temperature 100° F. She was cheerful, and made no complaint of pain or discomfort. At 12.20 p.m. she had another copious bright-red haematemesis—about two pints—which was followed in a quarter of an hour by another, after which she rapidly became collapsed. An attempt was made to transfuse saline solution intravenously, but death ensued within ten minutes.

Autopsy.

For the following notes of the autopsy I am indebted to Dr. Turnbull, Director of the Pathological Institute.

On *post-mortem* examination, forty-eight hours after death, it was found that a portion of a fish bone 2 cm. long and in shape resembling an arrow-head was projecting into the oesophagus through a ragged wound in the anterior wall immediately below the level of the bifurcation of the trachea. The perforation measured 0.5 cm. in diameter. There was a ragged, shallow wound in the descending thoracic aorta at the site of the obliterated ductus arteriosus. There was an abscess cavity containing brown purulent fluid in the areolar tissue between the perforations in the oesophagus and the aorta. Some red blood clot was found in the stomach, the lining membrane of which was in a state of mucous catarrh. There was melaena throughout the small and large intestines.

Remarks.

Apart from the rarity of the condition, the most interesting point in connexion with the case is the long latent

period intervening between the swallowing of the bone and the actual perforation of the aorta. It seems fair to conjecture that the haemorrhage actually commenced on the evening before her admission, and that at first there was a slow leak into her stomach, which had just about filled up as she arrived in the receiving-room. The bone itself may well have perforated the artery earlier and plugged the wound in the aorta until the surrounding area of ulceration had spread too widely to make this longer possible. Needless to say, the correct diagnosis was not even suspected. Had it been, and oesophagoscopy performed, one shudders to think of the haemorrhage which would have followed the extraction of the offending foreign body.

My thanks are due to Dr. Warner for kindly allowing me to publish these notes.

Reports of Societies.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Medicine.

At a meeting on May 16th, Dr. H. C. Drury in the chair, Dr. Nesbitt gave an account of four *Tests for liver function*, which he stated were in general use at some Continental clinics, and which, he considered from his own experience, would be found of service. Two of them depended on the fact that laevulose and galactose were excreted in the urine in considerable quantity after their administration by the mouth when disturbance of liver function existed. In the laevulose test 100 grams of this sugar were given in the morning, and any trace in the urine indicated liver disorder, but not its nature. The size of the dose was objectionable, and the further fact that about 10 per cent. of normal cases show some sugar in the urine rendered the test unreliable. The use of galactose in 40-gram dose formed a much better test. Normal cases excreted sugar for one, or at most two, hours subsequently. Cases with general cell, as apart from local, lesions in the liver eliminated sugar for five, six, or more hours in considerable quantity. The test was therefore positive in cirrhosis of all varieties, toxic forms of icterus, and parenchymatous degeneration, but negative in local lesions, such as tumours, and in two more or less general conditions—namely, chronic passive congestion and amyloid disease. This test was easily applied and reliable. A further test, depending on quite a different function of the liver, was the use of amino-acids. Ten grams of glycocol are given, and the amino-acid in the urine estimated by a modification of Henrique's method. No increase over the usual small traces was found when the liver was healthy, but disease of this organ caused the appearance of substantial amounts, even up to 5 grams. The test was rather more troublesome to carry out, but in practice had been found extremely accurate. The most novel and reliable of these tests was, however, the "aldehyde reaction." Two drops of Ehrlich's aldehyde solution (a 2 per cent. solution of dimethyl-para-amino-benzine-aldehyde in 50 per cent. HCl) were added to 5 c.cm. of urine. A deep rose-red colour indicated excess of urobilinogen, and therefore insufficiency of the liver, which was allowing urobilinogen (formed in the intestines from bilirubin) to pass through into the systemic circulation. Normal cases showed only the faintest trace of pink, which constituted a negative reaction. This test had been found very reliable, and was given by any condition of the liver which would derange even a small number of cells, but was most strongly positive in such conditions as chronic congestion, cirrhosis, tumours, degenerations of various forms, syphilis, and amyloid disease. Further, the reaction would be obtained frequently before physical signs of any kind had appeared. Its advantages in cases of this kind would readily suggest themselves.

Section of Surgery.

At a meeting on May 9th, Sir John Lentaigne in the chair, Mr. W. I. de Courcy Wheeler, in a paper on the various abdominal angulations and kinks associated with the term *Intestinal stasis*, based his conclusions on a study of 20 recent abdominal cases. Stress was laid on the association of various intra-abdominal lesions, and the speaker condemned the practice of performing the operation of appendicectomy with great rapidity. If an appendix lent itself to rapid removal by its anatomical position of gross pathological changes, either the operation was not justified, or, more likely, the symptoms were equally due to such conditions as Lane's ileal kink or Jackson's membrane. The speaker had been able to trace Jackson's membrane in direct and unbroken communication with the right margin of the omentum, and he accepted the theory of Gray and Anderson that it was nothing more than the lateral margin of the great omentum pulled out during the descent of the caecum. The congenital theory as to the formation of this and other bands and membranes forming kinks was satisfactory and comprehensible. Dilatation of the duodenum was often overlooked, and was due to developmental adhesions at the duodeno-jejunal juncture or to a band stretching across the duodenum to the right of the superior mesenteric artery. Jackson's membrane, so far from helping to fix the caecum, often caused a marked kink at the hepatic flexure, with prolapse and dilatation of the caecum. Cases with slight or marked visceroptosis, with splashing caecum and diffuse right-sided discomfort or pain, almost invariably had a well-developed Jackson's membrane. The membrane should be divided if causing exaggerated angulation of the hepatic flexure. The cases with a little experience could be diagnosed before operation. Left-sided pain was often due to an exaggerated kink of the pelvic colon, rendered worse in females by the implication of the left ovary in the line of fusion between visceral (mesocolic) and parietal peritoneum which caused the kink. A plastic operation on the mesocolon relieved the kink, and often cured constipation in the most intractable cases. In enteroptosis cases the conditions described were most marked. Gastro-enterostomy, like appendicectomy, was often performed without having regard to developmental adhesions and obstructions of a congenital kind below the duodenum. It was a simple and rapid operation to perform, but was seldom indicated beyond cases of pyloric obstruction. Until recently, gastro-enterostomy was too frequently performed, and the after-results were not as favourable as was generally supposed. The whole subject matter required riddling and discussion, but certain points were definitely settled, one of the most important being the definite presence of abnormal angulations and rotations of the gut, which, when relieved by operation, caused the disappearance of symptoms in a number of obscure abdominal cases. The relief of constipation by a plastic operation on a developmental kink was worthy of attention. Dr. Maurice Hayes, in a paper on the *Intestinal tract*, stated that in all cases the data furnished by the *x*-ray examination should be carefully analysed in conjunction with the previous history and the subjective and objective symptoms of the patient. Radiography should be employed as an aid to, and not as a substitute for, the ordinary methods of diagnosis. To interpret accurately the different shadows cast by the intestines required much practice and experience. The shadow of a loop of the bowel, when viewed obliquely, gave the idea of an existing kink; in reality this curve might be the arc of a circle quite insufficient to delay the passage of the intestinal contents. In spasmodic strictures of the oesophagus the bismuth food might be seen to enter the stomach with a sudden rush when the spasm relaxed. In cicatricial stenosis the food passed in a thin stream, and peristaltic movements were violent. In malignant strictures the peristaltic movements in the neighbourhood of the growth were feeble. Reversed peristalsis was often present, and enlarged glands could be observed near the gullet in the posterior mediastinum. As the position of the umbilicus varied, a transverse line between the summits of the iliac crests would be the most accurate landmark. In the erect position the greater curvature of what might be termed the "normal" stomach reached this line. Radiography was of doubtful value in determining the presence or absence of gastric ulcers. A point of maximum tenderness to pressure over a particular part of the stomach or duodenum was not strong presumptive evidence of an existing ulcer. Adhesions which fixed the terminal part of the ileum to the right pelvic brim could be detected by *x*-ray examination, and the latter was the most valuable method of accurately determining the

position of the large intestine. The duodenum was often seen to be much dilated—especially when there was obstruction to the free passage of food into the jejunum, or when there was delay in entering the caecum. Dr. FARNHAM said he had gone into the literature, and was not satisfied that the clinical symptoms attributed to these kinks were really due to them. It was well known that rest in bed improved the condition. He was not satisfied that the performing of plastic operations and the removal of them would improve the condition, nor would the removal of the adhesions improve it. The Chairman (Sir JOHN LENTAIGNE) said his opinion largely coincided with Dr. Farnham's. There were two main schools of mechanical theory of this affection—the English school, led by Lane, and the Danish; and there was a third, namely, the French. All the schools acknowledged that there were cases in which symptoms similar to those complained of in these instances were present without evidence of stasis, and that there might be some other cause. The Continental school said that most of the trouble was due to putrefactive changes in the intestine and that the condition was due to intestinal toxaemia; that there was a good deal of truth in this there was not the slightest doubt.

ROYAL SOCIETY OF MEDICINE.

SECTION OF MEDICINE.

AT a meeting on May 27th, 1913, Dr. FREDERICK TAYLOR, President, in the chair, Dr. H. A. LEDIARD (Carlisle), in a paper on *Chyliform effusion*, described a case which commenced in 1903 with abdominal pain, resembling that of peritonitis; a month later there was a second attack, and the recovery from it was associated with emaciation. All who examined the patient agreed that he had tuberculous disease of the abdomen. The face was expressive of prolonged physical depression, and his appetite was vicarious. The anterior abdominal wall showed distended veins, and, when he coughed, fluid passed down the left inguinal canal into the scrotum. There was dullness on percussion over a limited area above the umbilicus. Diarrhoea was a prominent symptom, probably on account of the unusual things the boy ate. The urine was free of albumen and sugar. Tuberculous peritonitis was diagnosed, and drainage recommended. The fluid withdrawn was reported upon as milky looking, alkaline in reaction, specific gravity 1005, 6 parts per 1,000 albumen, and less than 0.2 per cent. of fat. No distinct cellular elements could be found, nor was there either blood or pus. There was some improvement following the operation, but afterwards the patient fell away, and disturbance of the mentality suggested tuberculous meningitis; there was, however, no convulsion or fit. The abdominal swelling persisted, the tongue became dry, he was emaciated, and he died, obviously of brain symptoms. At the *post-mortem* examination chylous fluid escaped from the abdomen, and was found to be free in the abdominal cavity, more on the right side than on the left. It was not shut up in loculi; 65 oz. was removed. There was distension of the coils of the intestine, resulting in the heart having been pushed upwards. There were no adhesions between the coils of the intestines, nor between the latter and the abdominal wall. The omentum showed minute tubercle granulations, and the mesentery was much thickened; the mesenteric glands were much enlarged but not caseated. Near the pancreas was a mass of glands 2½ in. in diameter; the mesenteric vein was much obstructed. The thoracic duct in the thorax showed no abnormality. The glands presented numerous tuberculous foci, and in most of these the centre was caseated, with cellular proliferation, and giant cells. The lymphatic channels contained numerous mononuclear cells. The liver was not enlarged, but the spleen was large and doubled on itself; there was tubercle of the kidney also. There were no cavities in the lungs, but the air cells were filled with an exudate, and there were some tubercle bacilli found. The origin of the condition seemed to be that tuberculous disease affected the glands, and caused pressure on the receptaculum chyli. Death ensued owing to tuberculous involvement of the membrane of the brain, after a long period during which the disease was only abdominal. There was no means, short of tapping, by which the presence of a chyliform fluid could be determined. It had occurred to him that pressure could have been relieved by tapping the scrotum, though the chance of keeping that part aseptic was not great. In one of the cases on which the paper was based 31 oz. per day of fluid was drawn off. Dr. MACKENZIE WALLIS discussed the chemistry of these effusions, following upon analyses of the fluid obtained from 6 cases; 3 of these had been published in the *Quarterly Journal of Medicine*, and in that paper reference was made to the cases which could be found in the literature, 174 in all. The triple classification by Quincke was based upon the presence of fat in various quantities; but he believed that criterion was an erroneous one. He suggested the cases should be divided into two groups—the chylous and the pseudo-chylous. By chylous he meant the fluids which resulted from trauma or disease of the chyle vessels, with the escape of chyle from the lacteals of the pancreatic cyst. The pseudo-chylous were those fluids in the serous cavities in which the opalescence was only partially due to fat, other substances also being present. The commonest associated diseases with milky fluid were malignant disease, tuberculous infections, cirrhosis of the liver, and nephritis. Out of 172 cases, 42 had simultaneously pleural effusion which was milky and pseudo-chylous in character. In 18 the effusion was bilateral, in 24 it was unilateral. There were two examples of milky pericardial fluid, and four of milky peritoneal fluid associated with hydropericardium. In the chylous variety, the fluid reaccumulated much more quickly than in the pseudo-chylous, and the latter was a pure white, as against the yellowish-white of the other form; it also diminished in quantity after successive tappings. In one case, in which the disease was a septic hip-joint, the peritoneal fluid withdrawn was first milky, and later became serous. Odour was a great help in differentiation, for the pseudo-chylous was odourless, while the other smelt of ingested food, owing to the fat present in such food. Dr. RYFFEL described two cases in which milky-looking effusions were encountered. The first was one of chronic nephritis, in the later stages of which the fluid accumulated at a great rate. Its character corresponded with that described by Dr. Wallis as pseudo-chylous ascites. The second case, in which the fluid was found in the thorax, was a more difficult one, and the *post-mortem* examination did not enable the origin to be definitely stated. The liquid contained globules of fat, but they did not fully account for the opalescence.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

AT a meeting on May 24th, Professor E. W. HOPE, President, in the chair, Dr. C. O. STALLYBRASS, in a paper on the *Declining incidence of typhoid fever*, pointed out that this decline affected almost every civilized country; the statistics for Great Britain might be divided into two periods of decline, separated by a period lasting from 1890 to 1900, when the rates were stationary and there was an actual rise in some towns, notably London, Edinburgh, Birmingham, and Glasgow. Though one of the principal factors in the reduction of typhoid fever of late years had been the change from the conservancy to the water-carriage system of excrement disposal, yet in Liverpool the substitution of water-closets for privies was being actively enforced during the years 1880–93, and it was in those years that there was an increase of the disease in that city. Whatever influence was at work and operating to increase the prevalence of typhoid fever, it was sufficient to counterbalance the effect of the removal of the privy-middens which formerly existed. The speaker did not consider that the decline of the disease could be altogether attributed to an improved water supply, for this was excellent before the decline set in, nor did he think it was due to a diminished consumption of shellfish. It was more likely to be due to the increasing number of removals to hospitals, and most likely to the important sanitary work that had been effected in Liverpool in the last fifteen or twenty years, more especially as regards the rehousing schemes that had been carried out. These had involved the destruction of many insanitary courts, which at one time were a striking feature of the central and older parts of the city. They were provided with trough closets, common to several

families, which, in spite of the greatest care on the part of the sanitary staff, were often in a state of unspeakable filthiness. As a result there was an excessive incidence of typhoid fever in the central parts of the town compared with the outskirts. Since 1896 the number of these courts had been reduced from 1,540 to 500, and the annual number of cases of typhoid fever from 1,300 to 125; in other words, for every court destroyed there was one case of typhoid fever per annum less. Professor HOPE referred to the danger of fly contamination, and said that the public should be urged to obtain their food supplies only from those shops in which precautions against the contamination of food from the filth of flies were carried out. He was certain that more energetic control of the shellfish industry would benefit both those engaged in it and the public generally. Dr. VACHER was not convinced that immunity from typhoid fever was obtained by a previous attack. Dr. SYDNEY MARSDEN agreed as to the important association of privy-middens with outbreaks of typhoid fever, and stated that in Birkenhead the disease had practically become extinct with the adoption of water carriage. The Lord Mayor of Liverpool entertained the members of the society to luncheon, and in the afternoon motor excursions to the Liverpool Garden City and elsewhere were made, and about seventy members were taken for a cruise on the river.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

AT the quarterly meeting, held on May 27th, Dr. J. GREIG SOUTAR, President, in the chair, there was a unanimous acceptance of the resolution of a special committee that representations be made to the Home Secretary to the effect that it was most undesirable that criminal lunatics be sent to county or borough asylums. The Lunacy Commission had expressed its support of this attitude. The meeting was also unanimous in urging that Ireland should be included in the Mental Deficiency Bill now under discussion in the House, and it was shown that Ireland was in special need of such an enactment, even more so than the parts of the kingdom catered for in the measure. Dr. R. G. ROWS read a paper by himself and Dr. DAVID ORR on the spread of infection by the ascending lymph stream of nerves (ascending neuritis) from the peripheral inflammatory foci to the central nervous system. He said that it had been shown that toxins and organisms could travel by the lymph streams of peripheral nerves into the central nervous system; but while they could prove that degeneration of the myelin sheaths of fibres in their intramedullary course might thus be produced, they did not find unequivocal evidence of actual myelitis. In the present series of experiments the capsule containing the organism was placed much nearer the spinal cord than in the previous series, the cord being exposed at the level of the lumbo-sacral enlargement, and a capsule containing *Staphylococcus pyogenes aureus* was sutured against the dura mater. In some other experiments the capsule was placed close against an intervertebral foramen. All the experiments gave positive results, though in some instances the change was more acute than in others, owing to the capsule having burst and the nervous system being invaded by the organism. Generally it could be said that the nervous and meningeal tissues nearest the focus of irritation suffered most, and the phenomena became less marked from without inwards, with a minimum near the central canal of the cord. Only rarely were organisms found to have passed the barrier of the dura mater. Yet in both the white and the grey matter of the cord the vessels exhibited marked pathological changes. The resemblance between the experimental phenomena produced by the authors and the pathological phenomena found in acute poliomyelitis was very close indeed, and there could be little doubt that poliomyelitis was essentially a lymphogenous infection.

UNDER the will of the late Miss Margaret Jane Ashley, of Rowan House, Dorchester, Dorset County Hospital receives a bequest of £1,000 and Weymouth Eye Infirmary one of £500.

Reviews.

THE BRITANNICA YEAR BOOK.

ENCYCLOPAEDIAS are, of course, invaluable as works of reference, but their utility is greatly lessened by a serious drawback. Even when all the volumes appear at once, as in the last edition of the *Encyclopaedia Britannica*, not a few of the articles are necessarily out of date before the mechanical difficulties of publication can be overcome. No encylopaedia, therefore, is absolutely trustworthy at every point at a given time. This is true of all branches of knowledge, but it is especially so in the case of science, which is subject to changes often amounting to revolutions every few years. It was Sir Michael Foster, we think, who estimated the average life of a physiological theory at ten years, and surgery is liable to changes almost as rapid. A considerable time must necessarily elapse between the editions of an encyclopaedia, and in the meantime knowledge continues to grow at a pace with which no publication covering the whole field of human activity can keep pace. It was a happy inspiration, therefore, which led the publishers of the *Encyclopaedia Britannica* to issue a year book which is at once a supplement to the *Encyclopaedia*, bridging over the gap between 1910 and the present time, and an independent work of reference.[1] The *Year Book* is a companion and in many points a corrective of the great work published in 1910–11. In the words of Mr. CHISHOLM, the editor, "it comes in direct series, though in a different form, with the eleventh edition of the *Encyclopaedia Britannica*, and carries on under the same auspices, with the same ideals, and with the same corpus of contributors—selected and enlarged for adaptation to the circumstances, the same attempt to give accurate and disinterested expression to the best judgement of the civilized world." The *Year Book* is designed on the plan of an annual survey, but the arrangement of the matter is on the same lines as in the *Encyclopaedia*, which as it were hands on the torch to those responsible for its production. It begins with a diary of events from January, 1911, onwards, which, as far as we can judge, is remarkable for its completeness and accuracy, and it contains, packed into a wonderfully small space, information not only about the present state of knowledge in various departments, but about the events which have led up to the political and social situation and to discoveries in diverse fields. *Quidquid agunt homines* would have been an appropriate motto for the book. Turning to the articles likely to be most interesting to our readers, Mr. Stephen Paget gives a concise but lucid summary of the advances made in medical science within the last two years, and Professor Edward Cameron Kirk, of the University of Pennsylvania, reviews the progress of dentistry. We are somewhat surprised in a publication such as the *Britannica Year Book* to find an article on osteopathy. The editor seems to feel that some kind of explanation of the intrusion of such a diatribe in the domain of science is necessary, for he prefixes a note in which he says: "The distinctive school and system of medicine to which this name has been given has become so prominent in recent years that an authoritative statement of its principles and claims appears desirable." Such an "authoritative statement" is accordingly supplied by G. W. Riley, Ph.B., D.O., who is described as "a leading American osteopathist." We need not discuss the article further than to compare the statement of the author that "the curricula of the osteopathic colleges embrace all the subjects taught in the other medical schools except materia medica" with what is said about these schools by Mr. Abraham Flexner,[2] who states "with all possible emphasis" that not one of these schools is in a position to give such training as osteopathy itself demands. "In so simple and fundamental a matter as anatomy—assuredly the cornerstone of a science that relies wholly on local manipulation—they are fatally defective." The equipment of the schools is of the

[1] *The Britannica Year Book, 1913.* A Survey of the World's Progress since the completion in 1910 of the *Encyclopaedia Britannica*. Eleventh edition. Edited by Hugh Chisholm, M.A.Oxon., Editor of the *Encyclopaedia Britannica*. London and New York: The Encyclopaedia Britannica Company, Limited. 1913.

[2] *Medical Education in the United States and Canada.* A Report to the Carnegie Foundation for the Advancement of Science. New York. 1910.

poorest; the laboratory work, where it exists, is a farce. To quote Mr. Flexner again, "the eight osteopathic schools fairly reek with commercialism. Their catalogues are a mass of hysterical exaggerations, alike of the earning and of the curative power of osteopathy." We can only express regret that a book of such high aims and so thoroughly well executed should be disfigured by what we can only call a piece of rigmarole. But on the whole the *Year Book* is a marvellous piece of work, and it is to be hoped that its success will encourage the publishers to continue an enterprise that will, so to speak, keep the *Encyclopaedia Britannica* permanently alive and abreast of advancing knowledge. That there is a good prospect of this being accomplished may be gathered from a circular which we have received from the publishers in which, in apologizing for any delay experienced in obtaining copies of the book, they state that the filling of 10,000 orders already received has exhausted the first impression, and the second printing has not been obtainable from the press quickly enough for the delivery of further copies on demand. They add, however, that the second impression will now be shortly received from the binders. For a doctor who wishes to keep himself well posted without much trouble in the progress of human affairs we know of no better guide than the *Britannica Year Book*. For the period which it covers it is an admirable *Conversationslexicon*.

TUBERCULIN IN DIAGNOSIS AND TREATMENT.

PRACTICAL experience in the use of tuberculin is gradually affording a mass of evidence as to its therapeutic value, its indications, and its limits. An important contribution to the common stock of information is forthcoming from the chief workers at the Henry Phipps Institute in Philadelphia, where the treatment has been in use for the last five years.

Drs. HAMMAN and WOLMAN have issued a substantial volume, *Tuberculin in Diagnosis and Treatment*,[3] containing a very full account of the principles underlying the action of tuberculin, and of their experience of its uses. Nominally written as a guide to the uninstructed worker, it makes clear certain general lines of thought, but the reader will rapidly discover that the points upon which all observers are agreed are not very numerous. From much that is purely speculative certain considerations stand out definitely, and of these we may mention the opinion that reaction to tuberculin is an indication of infection, but not of necessity of the clinical disease. Another important fact with regard to immunity may be held to be established. Actual immunity is only a relative condition. It depends upon the size of the reinfecting dose. A small reinfection may lead to much local disturbance in the immune subject by which the virulence of the infecting bacilli is destroyed, but a large reinfection may be attended by general symptoms continuing for a long time, and indicative of a chronic rather than an acute progression of the disease. A very acute infection, on the other hand, may produce all the symptoms of intense intoxication leading to death, even in a person previously assumed to be immune. The relapses so commonly observed in the human subject, varying in intensity and duration, are doubtless often due to auto-infection reacting in proportion to the size of the dose of poison that may be at work.

Although reaction to tuberculin, experimentally introduced, is a fairly good test, it is open to several sources of error and hence it will not surprise the reader, who may have hitherto put all his faith in the textbook, to find that a great divergence of opinion is obvious amongst experimenters as to the actual nature of the tuberculin reaction. The phenomena of hypersensitiveness have been more fully studied in recent times, but much remains to be done before its full diagnostic significance can be established. Most observers are agreed that a vigorous response to the cutaneous test is a good indication of such hypersensitiveness in early life, but in later years the frequent exceptions prevent any positive deductions. It would appear that from 40 to 60 per cent. of healthy adults have been found to react to the subcutaneous test, but the interpretation of this high average has been the subject of much contradictory discussion. The conjunctival reaction also has met with varied degrees of support and objection. It seems to have proved injurious in too large a number to admit of its unrestricted use, and the conclusion drawn from the large field of the authors' experience is not in favour of the routine use of any tuberculin test for diagnosis, but only when other means have proved inconclusive.

The later part of the work is devoted to the discussion of treatment, and full information is given as to the methods of preparation and technique employed. Like other special workers in the field of tuberculosis, the authors are fully alive to the danger of attributing recovery to any special means of treatment adopted. They maintain that three points must be regarded in estimating success or failure—namely, the duration of life after treatment, the ability to work, and the absence of bacilli from the sputum. The persistence or modification of physical signs are, they consider, of minor import, if the other conditions are favourable.

Although nominally intended as a practical guide, the work is in fact a compendium of former and latter observations and of the opinions founded upon them. The average reader without special knowledge may well be confused and enlightened in turn by the mass of conflicting evidence that is put before him. It need hardly be said that the ultimate verdict is in favour of tuberculin treatment, but there are so many side-issues to consider that the particular conditions of each individual case must still count for much before the decision that tuberculin should be used is reached.

EYE-STRAIN.

THIS useful little book[4] consists of a collection of articles contributed to the BRITISH MEDICAL JOURNAL, the *Lancet*, the *Birmingham Medical Review*, *The Ophthalmoscope*, and *The Reports of the Society for the Study of Disease in Children*. They include the Middlemore Lecture, delivered in 1910 at the Birmingham and Midland Eye Hospital. It is obvious that there must be a great deal of repetition, but the subject is of such vast importance that many of its phases cannot be too often reiterated.

The first article is on eye-strain, or asthenopia and its detection in practice. The author defines eye-strain as a convenient modern expression which may be taken to mean that the eyes cannot be used as they should be in a state of health without entailing a strain upon the muscles, intrinsic or extrinsic, of the eye, which in its turn betrays itself by local or general discomfort. This strain is more likely to be manifested among the cultured classes, and is more common in women and children than in male adults. The "neuropathic temperament" is an important factor in determining the symptom complex of eye-strain. Chronic headache and neuralgia are the symptoms most frequently met with; some American authors would add a multitude of other functional disorders, including epilepsy and chorea, but the author gives cogent reasons for believing that this is to go too far. The detection of eye-strain is by no means easy, especially when no eye symptoms are present, such as pain, blepharitis, conjunctivitis, or chronic sties, all of which are associated with errors of refraction. Many of the patients have perfect vision, and the error of refraction may be very small. In a susceptible individual even one quarter of a dioptre of astigmatism may be responsible for all the symptoms, especially if the axis be oblique or against the rule. The author agrees with Weeks in urging the absolute necessity of using a mydriatic in such cases, and he rightly says that full cycloplegia with atropine may be necessary. This advice is the more welcome because many ophthalmologists treat these cases without cycloplegics; the result is often failure to cure the symptoms of asthenopia. Time must be devoted to the case, and it may be necessary in a bad case to see the patient several times.

The second chapter deals with ocular headaches. The causes of headaches are classified, and among them eye-strain occupies a prominent place. Errors of refraction and of muscle balance are fertile sources of headache. The

[3] *Tuberculin in Diagnosis and Treatment.* By Louis Hamman and Samuel Wolman, of the Johns Hopkins University. New York and London: D. Appleton and Company. 1912. (Demy 8vo, pp. 395, figs. 30. 12s. 6d. net.)

[4] *Eye-strain in Everyday Practice.* By Sydney Stephenson, M.B., C.M.Edin., D.O.Oxon., F.R.C.S.Edin. London: *The Ophthalmoscope* Press. 1913. (Demy 8vo, pp. 139. 3s. 6d. net.)

author believes that migraine is often due to eye-strain: "I do not for one moment doubt that the *essential* factor in migraine is eye-strain." We are inclined from our own experience to agree with Flemming, who said that "he did not believe that the migraine would be cured merely by correcting errors of refraction, as there was a general condition to be considered in addition." Many cases of migraine have no errors of refraction or of muscle balance, and careful correction of such errors when present may fail to cure. Many cases may be greatly improved, but the prognosis should be most guarded or much disappointment may follow.

The third chapter, upon some unusual forms of migraine in children, is most valuable, coming as it does from the pen of one who has made the diseases of children his special branch of ophthalmology. Many of the headaches of children are migrainous in nature, and the migraine is apt to be atypical in infants. It is often bilateral, its periodicity is striking, tinnitus is frequently present, and hemianopsia and scintillating scotomata are rare. Stephenson discusses migraine associated with aphasia; migraine replaced by bouts of vomiting; and migraine associated with alterations of sensation or disturbances of mobility. Cases are cited in support of these types. Finally, the author believes that severe vertigo may be a manifestation of migraine.

The fourth chapter treats of habit spasm and eye-strain. The habits are jerking movements of the lids, often accompanied by a drawing up of the angle of the mouth; convulsive movements of the nose, the forehead, shoulders, arms, hands, or legs; and a tendency to make uncouth noises, such as "grunting," "clucking," "sniffling," or "hiccoughing." A careful examination of the eyes is essential in all these cases, which may often be cured by suitable glasses.

"Pseudo-optic neuritis" is the subject of the fifth chapter, which is headed "A Common Appearance of the Optic Disc liable to be mistaken for Optic Papillitis." The reviewer has found these cases exceedingly rare; although he has examined the disc of every child in a school clinic, he has so far not detected one among the last 250 cases; Stephenson finds 22.8 per cent. James Bordley describes the condition as "fairly rare," and Poltbeck gives the figures as 0.214 per cent. The cases to which references were made have all the characteristics of real papillitis, and can only be separated from it by a consideration of the whole circumstances of the case. The common mistake is to take pseudo-papillitis for real optic neuritis, but the reverse error has been made, even by Stephenson himself. The appearances of the disc vary so much that in slight cases it is difficult to decide whether a given example is within the physiological limits or whether there is an actual hyperaemia. The edges of the disc may be indistinct and yet the fundus may be normal. These facts may account for the frequency with which the author finds papillitis of the pseudo-hypermetropic type. The differences between the real condition and the "pseudo" type are discussed by the author. The final chapters deal with cases of eye-strain simulating grave organic disease of the central nervous system and the aftermath of eye-strain, the last being the Middlemore Lecture.

We have said enough to indicate the extreme interest and real value of the book, so we shall leave these last chapters to the reader. The subject of eye-strain as a cause of headache and an exciter of other manifestations of the neurotic habit is receiving much more attention from the general practitioner than formerly, but even to-day many persons suffer lifelong misery and often incapacity for work because no one tells them to consult an ophthalmic surgeon. The practitioner will never earn more gratitude from his patient who is a martyr to headaches than when he sends her to a careful and competent ophthalmologist. Too often such persons fall into the hands of the advertising "optologist." Every medical man would do well to buy, read, and digest Mr. Sydney Stephenson's book.

DISEASES OF THE HAIR.

THE work of Sabouraud has added more than that of any other dermatologist to our knowledge of the hair and its diseases within the last few years, and although many problems still remain unsolved he has done much to evolve order out of the chaos of vague ideas and empirical therapeutics which so long have prevailed in this department of dermatology. The *Treatise on Diseases of the Hair*,[5] by JACKSON and MCMURTRY, would deserve a welcome if for nothing else than that it presents the main results of Sabouraud's work on seborrhoea of the scalp and kindred subjects in a form easily to be understanded of the English-speaking public, but it has the merit also of being written in a scientific manner, and of making use of modern bacteriological observations. The first great advance in our knowledge of diseases of the hair was made by Gruby, who discovered the fungus which is the cause of ringworm; then came the differentiation of ringworm from alopecia areata and the separation of the different varieties of ringworm from one another; lastly, Sabouraud has thrown considerable light on the problem of premature baldness, now perhaps commoner than ever. One great question still, however, remains as obscure as ever, the etiology of alopecia areata. This problem has exercised the minds of many dermatologists, but the only fact as yet established is that heredity plays a part in its causation. The present authors discuss at some length each of the current theories, the parasitic, the trophoneurotic, and the dystrophic theory of Jacquet, but they do not throw any fresh light on the subject. We are driven to take refuge in the blessed word "toxaemia." Although a book on diseases of the hair must necessarily concern itself chiefly with the scalp, due attention has been paid to the hair of other parts of the body, and such diverse conditions as sycosis, hairy moles and trichotillomania are all dealt with adequately. The subject of treatment is in most cases fully dealt with, and there are many interesting prescriptions given which will repay examination. We are pleased to note that the Kienbock-Adamson method of applying x rays to the scalp is recommended as the method of choice when the whole scalp is affected with ringworm, but Fig. 71, which illustrates the points to which the rays should be directed, is not quite accurate, as the lines of application are not drawn in each case perpendicular to the surface of the scalp. The book is well got up, the illustrations, many of them derived from Sabouraud, to whom in their preface the authors handsomely recognize their indebtedness, are excellent, and we can recommend it confidently.

THE HISTORY OF CHEMISTRY.

A PERUSAL of Dr. CAMPBELL BROWN'S *History of Chemistry*[6] impresses the reader with the fact that the subject is practically coextensive with the history of all experimental science. The various branches into which science is now divided—chemistry, physics, botany, physiology, and all the departments of the science of medicine—all have a common origin, and in their earlier stages are scarcely distinguishable. As they have gradually diverged, chemistry has contributed to all of them, and in turn has been helped by each.

Dr. Campbell Brown commences his book with an account of the most ancient observations and speculations of which records have come down to us, and divides the history approximately into five periods, which partly overlap: (1) The Prehistoric, from prehistoric times to 1500 B.C.; (2) the Alchemical, from 1500 B.C. to 1650 A.D.; (3) the Iatro-chemical, from 1500 A.D. to 1700 A.D.; (4) the Phlogiston period, from 1650 to 1775; (5) the Quantitative period, from 1775 to 1900. In dealing with the first of these periods, ancient Chaldean and Egyptian records supply most of the material; the knowledge of metals, pigments, etc., in those remote times shows a practical acquaintance with some chemical processes which is by no means to be despised. The alchemical period was dominated, though perhaps to a less extent than is sometimes supposed, by the quest for the philosopher's stone and the power of transmuting baser metals into gold. In the iatro-chemical period, the association of chemistry with medicine, which has never since been dissolved, may

[5] *A Treatise on Diseases of the Hair.* By G. T. Jackson, M.D., and C. W. McMurtry, M.D. London: Henry Kimpton. Glasgow: A. Stenhouse. 1913. (Roy. 8vo, pp. 366; 109 engravings and 10 coloured plates. 16s. net.)

[6] *A History of Chemistry, from the Earliest Times till the Present Day.* By the late James Campbell Brown, D.Sc.Lond., LL.D.Aberd., Professor of Chemistry in the University of Liverpool. With a portrait and 106 illustrations. London: J. and A. Churchill. 1913. (Med. 8vo, pp. 568; 106 illustrations. 10s. 6d. net.)

be said to have definitely commenced, since the main object of the iatro-chemists was the production of substances of value as medicines for human ailments. The theory of phlogiston marks the beginning of the more definitely scientific aspect of chemistry, the phlogistonists and antiphlogistonists being more concerned with the discovery of the explanation of such general phenomena as combustion than with any directly utilitarian object. But as a large proportion of the notable chemists from that time to the present were either practising physicians or pharmacists, or began their careers in medicine or pharmacy, the association between chemical science and the art of medicine has continued to be close. The quantitative period may be said to have begun with Lavoisier, who employed the balance systematically in the study of chemical phenomena; Priestley, Cavendish, and others were working at the same time in a genuinely scientific spirit, and with the enunciation, soon after, of Dalton's atomic theory, the science of chemistry began that advance which has revolutionized the world.

Dr. Campbell Brown's book, published posthumously, and edited by Mr. H. H. Brown, is based on the lectures delivered by him as part of his chemical course in the University of Liverpool, and shows an amount of research which proves how deeply he felt the absorbing interest of his subject. Practically half the book is devoted to the development of chemistry in the nineteenth century, and as the present time is approached details are more fully given; the final chapter is devoted to that latest field of chemical study, the radio-active elements. It is of great interest to observe from the narrative how imperfect theories, like that of phlogiston, which had to be abandoned and fell into discredit, can nevertheless be seen in the light of fuller knowledge to have come so near to the truth that comparatively little alteration suffices to identify them with the views now held and established by experience; and another striking observation is that an erroneous theory has not infrequently been maintained to the last by the very men whose work was making it untenable.

The interest of the book is considerably enhanced by the numerous portraits of famous chemists, from Boyle onwards, whose work is dealt with; there are also many reproductions of illustrations from old manuscripts of the apparatus and the signs employed by alchemists.

NOTES ON BOOKS.

DR. NORMAN PORRITT has published, under the auspices of the Church of England Temperance Society, a useful pamphlet of warning with regard to the dangers of the drug habit.[1] As he points out, the secrecy with which such indulgence is invariably practised renders it difficult, or rather impossible, to estimate the extent of the evil, but there can be little doubt of its wide and growing prevalence. Nor can it be denied that its effects upon moral and physical health are even more disastrous than those of alcoholism. The pamphlet is well calculated to enforce the gravity of the evil with which it deals, and deserves wide circulation.

Popular handbooks on the part the mosquito plays in the spread of disease are required, and one[2] by ALVAH H. DOTY, formerly health officer of the Port of New York, may be recommended. It deals sufficiently with the identification, breeding places, food, and length of life of mosquitos, the distance they can travel, and with their hibernation. The extermination of the mosquito, and remedies and agents for the prevention and treatment of mosquito bites, are discussed. The book is well illustrated with diagrams of larvae, pupae, and adult insects, which greatly increase its value. It should prove useful to the laity generally.

A monograph by G. A. WETTERSTRAND,[3] dealing with the many aspects of perforated gastric and duodenal ulcer, gives an analysis of 60 cases operated upon between 1900 and 1911 at the University Hospital in Helsingfors. Only in a few cases was it possible to distinguish ulcer of the stomach from ulcer of the duodenum before operation. It is unfortunate that hitherto satisfactory information as to the ultimate results of operation has not apparently been forthcoming. Previous publications indicate vaguely that more than half of the patients operated on for perforation of a gastric or duodenal ulcer lived many years after in perfect health, and that troublesome symptoms seldom occurred after recovery. The author has found it difficult to follow up his patients, only 17 of whom he has succeeded in tracing. Of these, 13 were fit for work, and of these, again, 8 showed no symptoms of ulcer. The author concludes that the disease is as common in Finland as in other civilized countries, but that men are far more liable than women to contract the disease. In 75 to 80 per cent. there was a history of symptoms indicative of ulcer. In three-quarters of his cases the author found changes in the liver dullness due to the escape of air into the abdominal cavity, and comments on the scant recognition which this valuable sign has hitherto received. He finds that peritonitis following perforation is usually diffuse, and that the mortality from this source is 45 per cent., as compared with 39 per cent. in cases of diffuse peritonitis following appendicitis.

[1] *The Drug Danger: A Warning.* By Norman Porritt, M.R.C.S., L.R.C.P. London: Church of England Temperance Society. 1d.

[2] *The Mosquito, its Relation to Disease, and its Extermination.* By Alvah H. Doty, formerly Health Officer of the Port of New York. New York and London: D. Appleton and Co. 1912. (Fcap. 8vo, pp. 80, 10 figs. 5s. net.)

[3] *Bidrag till Kännedomen om de perforerade Mag- och Duodenalsaren.* Helsingfors. By G. A. Wetterstrand. 1912. Aktiebolaget Lilius und Hertzberg. (Pp. 153.)

MEDICAL AND SURGICAL APPLIANCES.

A Milk and Butter Cooler.

MESSRS. BILTON AND CO., of Fenton, Stoke-on-Trent, have made a milk or butter cooler of a kind many housekeepers have been looking out for. The principle of its construction is scientifically sound and is well carried out. It consists of a large outer vessel of red porous earthenware and an inner of glazed white ware which rests on the rim of the larger and has a ventilated glazed cover. The outer vessel is filled with water which slowly filters through, so that if the vessel is kept clean and free from grease the outer surface is constantly moist, and the evaporation in warm weather keeps the temperature of the interior below that of the atmosphere. The outer vessel is of good design. The price varies, we are informed, from 4s. 6d. to 1s. 6d., according to size.

Tonsil Forceps.

Dr. JAMES DONELAN (London, W.) states that he has used the tonsil forceps shown in the drawing for a long time with great advantage in the removal of embedded tonsils or in those in which only a small amount of tonsillar tissue has been left by a previous operation, but which are liable to become enlarged through recurrent infection of the remaining crypts. He has lately had the jaws of it modified so that it holds the gland without tearing it, as is so often the case with hooked instruments. It will be found especially useful in the removal of embedded tonsils by dissection, but is made without scissor handles in order to allow of the passage over it of a snare or guillotine.

THE PARLIAMENTARY COMMITTEE ON PROPRIETARY MEDICINES.

THE ADVERTISING OF "BEAUTY SPECIALITIES."

THE Committee of the House of Commons appointed to inquire into the sale and advertisement of proprietary medicines resumed its sittings on May 29th, when Mr. S. F. Ely, secretary and manager of Messrs. Dearborn, Limited, proprietary manufacturers in London, was called.

The Chairman (Sir Henry Norman) explained that the attention of the Committee had been directed to a series of advertisements in popular monthly magazines of medical preparations which were alluded to in the form of answers to correspondents appearing under the names of various ladies. The Committee desired to ask the witness certain questions about these advertisements—was he prepared to answer?

The Witness: I am afraid I am not. Mr. J. D. Daniels, who is the only director of the company and who writes the advertisements, is in America at present.

Questioned further, the witness said there was no one in this country at present who knew anything about the advertisements. Mr. Daniels was the sole proprietor of the company, whose authorized capital was £2,000.

Mr. Parkes, a solicitor, who accompanied the witness, offered to give evidence, and after the Committee had

considered the situation in private, Mr. Parkes took his seat in the witness chair. He stated that the company was incorporated in January, 1912; there were two shareholders, Mr. Daniels and another; Mr. Daniels held 501 £1 shares and the other shareholder one share.

The Chairman: Under the agreement this director, Mr. Daniels, sold to himself his own knowledge and his own services?

The Witness: That is so in all these one-man companies.

It was also elicited that when the company was formed Mr. Daniels became a debenture holder for £500, but after two or three months' trading the debenture was paid off. The witness said that Mr. Daniels consulted him as to the form of the advertising of the firm; he felt it would be a breach of professional confidence to state what advice he gave, but he had no objection to stating that since the interview the advertisements had not appeared in the form of answers to correspondents.

Mr. Glyn-Jones: Do you think it is a legitimate form of advertising to publish, apparently as part of the editorial matter of a paper, advice to use certain articles by means of fictitious answers to non-existent correspondents?

The Witness: My own view would be against it. I am not speaking of the legality or morality of it.

Mr. S. F. Ely was then recalled and sworn. The Chairman read the names of various ladies which appeared in several magazines as conducting a page of "Beauty Hints." The names were Mdlle. Florence Gauthier, Mdlle. Agnés Deprés, Mdlle. Marguerite Fournier, Mdlle. Mildred St. Aubyn, and others. He then said to the witness: You are speaking now with very great responsibility and upon oath. Are we to take it you state you have no knowledge either as to the existence or non-existence of these ladies?

The Witness: I do not know if they exist or do not exist.

The Chairman: It would strike anybody as strange that anyone in the responsible position of secretary and manager should be ignorant on the point.

The witness replied that Mr. Daniels did not discuss the advertising with him at all. He also said he had never seen any letters from these ladies, nor were there any entries in the books with reference to payment for services rendered. He could point to no fact leading him to think these ladies had a real existence; he "had an idea" that "Mildred St. Aubyn" was a real person, but he could not give any specific reason for this impression. He declined to say he believed the names were used for advertising purposes only.

Many questions were put by the members of the Committee, and after appealing to his legal adviser, the witness consented to say that the company had declared a dividend; but, he added, "you must not ask me how much." He told Mr. Lawson that "reader advertisements" cost 50 per cent. more than display advertisements, and that the magazine charges amounted to £15 and more a page. Mr. Lawson asked what the turnover of the company was. "You cannot know that," replied the witness; "it is private information."

In reply to the Chairman, the witness said he thought there were letters at the office of the company from "Mildred St. Aubyn."

The Chairman: Then you can produce them?

The Witness: I should not do so.

The Chairman: I do not think you realize the powers of the Committee. We can call on you to produce any documents or papers you have.

The Witness: Tell me what you want and I will decide whether you shall have it. (Laughter.)

The Chairman: Mr. Ely, I want to warn you. I quite understand you are in a difficult position in being called upon to give evidence in the absence of your employer, but that must not lead you into disrespect for this Committee. We desire to know whether these ladies have a real existence or not, or whether they only exist in imagination and for advertising purposes.

The examination concluded after the witness had stated, under pressure, the name of the firm of wholesale chemists manufacturing the company's preparations and had mentioned that the staff at the office consisted of himself (his duties being mainly those of an accountant), a typist, two bookkeepers, and two packers.

Nova et Vetera.

A MEDICAL PIONEER OF SOCIOLOGY.

It is noteworthy that among the pioneers of political economy medical men figure in the first rank. Sir William Petty, who may be said to have laid the foundations of the science in his *Political Arithmetic*, was professor of anatomy at Oxford and afterwards physician-in-chief to the army in Ireland. His *Political Arithmetic* was first published in 1691, after his death, but several writings of his on taxation and finance appeared in his lifetime. About the same time questions of currency and finance were much in the thoughts of John Locke, the philosopher, who was for some years a commissioner of the Board of Trade. Locke studied medicine and practised the profession at Oxford; although he was known among his friends as "Dr." Locke, it seems doubtful whether he ever took a degree. He gained the confidence of the first Lord Shaftesbury by his successful treatment of a chest complaint, and he became the confidential adviser as well as the physician of his patron. To this connexion he owed his introduction to the world of action, and he gave up medicine to devote himself to political and philosophical studies. Another pioneer of political economy—or perhaps it would be more accurate to say sociology—was also a member of the medical profession. This was François Quesnay, physician to Madame de Pompadour, the founder of the *physiocrates*. He was one of the most remarkable figures among the philosophers of the eighteenth century, and may even be held to rank among the great thinkers of all time.

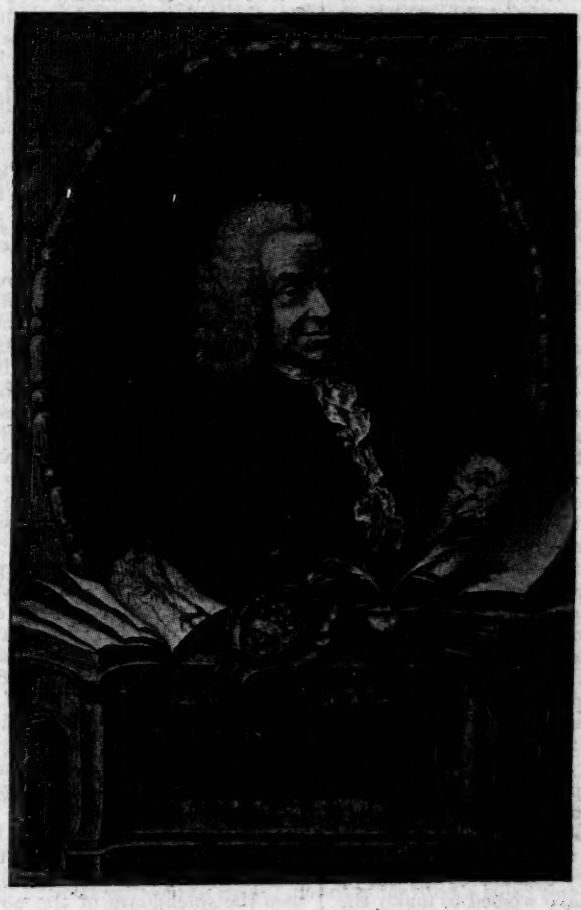
Quesnay was born at Méré, near Montford-l'Amury, in 1694. He was of peasant stock, and his knowledge of the conditions of rural life largely determined the line of his intellectual development. The records of his early life are obscure and confused. His latest biographer, M. G. Schelle,[1] has taken great pains to get at the true facts. It appears that, after being apprenticed to a surgeon of Ecquevilly, he entered himself as a regular student at the Paris College of Surgeons and the Faculty of Medicine. Quesnay was a diligent student, never, it is said, missing a visit or a dressing at the Hôtel-Dieu, and finding time besides to complete his general education, which had been neglected. This he did to such good purpose that he obtained the degree of Master of Arts from the University of Paris. In 1718 he was admitted a Master by the College of Saint-Côme, and settled at Mantes as a surgeon, being at that time 24 years of age. He had a good practice at Mantes, and was held in special repute as a man-midwife.

Even at that early time he showed independence of thought and character. He was bold enough to break a lance with a Paris physician, Silva, who had advocated bleeding as a universal means of dispersing the humours localized in any part of the body. At this time the long quarrel between the physicians and surgeons of Paris had come to a head. It was a war of pamphlets and lawsuits, and the controversy between Quesnay and Silva was regarded as an incident in the campaign. On the initiative of La Peyronie, first surgeon to the King, an Academy of Surgery was formed. Quesnay gave valuable help in carrying the scheme into effect. La Peyronie formed a high opinion of his capacity, and it was probably by his advice that Quesnay resolved to settle in Paris. In 1734 the Duke de Retz appointed him medical attendant to his household, and in 1739, by one of those abuses common at the time, the Duke nominated him a commissioner for war. Quesnay drew the salary of this office till the time of his death. He accompanied his patron on his travels to Lyons, of which de Retz was governor, and to the army, but his chief domicile was the Duke's house in Paris. There he had time enough on his hands to devote himself to studies of his own choice. La Peyronie, on his part, in 1736 got Quesnay appointed sworn surgeon to the Prévôté de l'Hotel, a post to some extent corresponding to that of police surgeon. In 1738 he was nominated "royal professor" of surgical medicaments. In that capacity he drew up reports on suppuration and the repair of tissues, and on resolvents, emollients, detersives, etc.

[1] *Le Docteur Quesnay, Chirurgien-Médecin de Madame de Pompadour et de Louis XV, Physiocrate.* Paris: Félix Alcan, Editeur. Librairies Félix Alcan et Guillaumin Réunies, 108, Boulevard Saint Germain, 108. 1907.

In 1740 he was appointed secretary to the Academy of Surgery, an office which he held till 1748. In 1743 the first volume of the *Mémoires* of that academy was issued under his supervision. It contained articles on suppuration, gangrene, wounds, ulcers, and tumours, from his pen. His advanced views on the surgical treatment of abscess and "fungus" of the brain brought upon him the wrath of John Bell. Quesnay also contributed a preface in which he urged that surgeons should not be satisfied with manual dexterity and mere observation, but should look upon a knowledge of anatomy and chemistry as essential. He insisted that to be a sound practitioner it was necessary to be a surgeon as well as a physician. Quesnay had a considerable share in the great history of surgery issued under the auspices of La Peyronie. That work was intended to prove that the College of Surgeons had always been independent. The public was generally on the side of the surgeons, and in the end the surgeons were victorious.

In 1744 Quesnay took his degree as Doctor of Medicine at the little university of Pont-à-Mousson while he was at Metz with the army in attendance on the Duke de Retz. His abandonment of surgery is said to have been due to an infirmity which crippled his hands. His graduation brought him into conflict with the Faculty of Paris, which put in force an old decision that the doctors of Paris should not consult with those of provincial universities. La Peyronie continued to be a powerful protector, and left him a considerable legacy. On his death Quesnay was talked of for the post of first surgeon to the King, and his candidature was supported by Diderot with his pen. La Martinière was, however, appointed.



It was in an essay on the quarrel between physicians and surgeons, published in 1748, that Quesnay first showed the bent of his mind towards social philosophy. The interesting feature of this essay is that Quesnay considers the whole question from the point of view of the public good rather than that of the doctors. There is in more than one place a note of scepticism, as when he hints that the first thing to be inquired into is whether these professions are useful rather than hurtful to society, and whether they should be maintained or done away with. He points out that among poor people treatment is very simple, consisting in bleeding, *tisanes*, some purges, and very little else in the way of medicine, and this, he adds, is "perhaps the best."

By 1750 we find Quesnay installed at Versailles. A year or two before he had been chosen by Madame de Pompadour as her doctor. He had rooms in the palace near the floor occupied by the favourite. Madame de Pompadour was an exacting patient. She often had headaches and kept her bed, and Quesnay could not leave his post day or night. When she went to Paris, however, he sometimes got permission to pay visits to the capital. He followed her wherever she went, and it is said that on two occasions he saved her life. She left him a pension by her will, and gave him many other marks of kindness. He was on a very confidential footing with her, and had naturally many opportunities of becoming acquainted with people of influence. Quesnay's position at Court steadily improved, and he was often admitted to the conversations of the King with Madame de Pompadour. In 1752 he had charge of the Dauphin during an attack of small-pox, and the King's gratitude showed itself by the grant of a pension and letters of nobility. The King used to call him his thinker, and in allusion to this gave him three pansies on his arms ("pansies, that's for thoughts"). On one occasion when the King was taken so ill in the apartments of his mistress that he was thought to be dying, Quesnay was sent for and had the good fortune to cure him. This was rewarded by a gift from the King which made it possible for Quesnay to buy a considerable estate, where his son gave himself up to agriculture. He was also one of those who treated the King after the attempted assassination by Damiens. Although he visited his royal patient five or six times a day he made very light of the wound, saying if it was anybody else he could go to a dance.

Notwithstanding his position at Court, Quesnay led an independent life. He received persons of all parties in his rooms, and his friends knew that there they could talk with the greatest freedom and that nothing said there would be repeated outside. Among those who frequented his quarters were Diderot, d'Alembert, Helvetius, Buffon, Marmontel, the Marquis of Mirabeau (*L'Ami des Hommes*, father of the Mirabeau of the Revolution), and Condillac. Adam Smith knew him and formed a very high opinion of him. In Quesnay's rooms the Revolution was confidently foretold. Quesnay had neither taste nor talent for intrigue, and his rugged honesty was recognized by all. Though small and ugly, the brilliancy of his conversation made people forget his appearance. He knew men well and had the art of making them show themselves as they really were. In 1753 he published his last contribution to medical literature, a treatise on continued fevers, which he dedicated to Madame de Pompadour. His reputation was then well established. He was a Fellow of the Royal Society of London and of many other learned bodies.

Soon after Quesnay became attached to the Court the first volumes of the famous *Encyclopédie* appeared. The authors were his familiar friends. He took part in their work and contributed an article on pure metaphysics under the caption "Evidence" to the sixth volume. To the other volumes he contributed articles on farming and husbandry, but when in 1759 the licence was withdrawn Quesnay ceased his collaboration, although he had prepared articles on the functions of the soul, taxes, and interest on money. Although Quesnay took religion as the fundamental basis of his system, respected it in all his writings, and died quietly in the arms of the Church, he had a horror of fanaticism and dreaded the advent to power of the Dauphin, whom he believed to be under clerical influence. It may not be rash to conjecture that his orthodoxy was, at any rate to some extent, dictated by caution.

Where did Quesnay get his knowledge of economics? He acknowledges a debt to Locke, but there was very little economic literature in the eighteenth century to read. He had observed and thought much for himself. The son of peasants of the Beauce, and having lived long within a short distance of Paris, he had seen the effects of the famines of the last years of Louis XIV and that of 1723. He had seen with what arbitrary violence the police made requisitions for the food supply of Paris. He knew

the wretchedness of the rural districts. On the other hand, at Versailles he witnessed the selfishness of the Court, and the enormous fortunes made by contractors. Attached to the service of a woman who, because she was beautiful, believed herself capable of controlling the destinies of France, living close to a king given over to idleness and pleasure, who was content to leave the conduct of affairs to men who were mere empirics in statecraft, Quesnay was led to believe that in applying to the science of government the methods which he had used in medical science he might be able to exercise a beneficial influence. Had he been ambitious he might have pushed himself forward to high place, but he thought mainly of getting solutions of the problems which he studied accepted. Thus we have the extraordinary spectacle of a man of 60 giving up the studies of his life and devoting himself to researches on subjects hardly explored by others.

The crime of Damiens awakened Louis XV and even Madame de Pompadour for a moment to the importance of political economy. Taking advantage of this, Quesnay tried to get his views on taxation, agriculture, and commerce accepted by the Government. In his *Tableau Economique*, which was printed at Versailles under the eyes of Louis XV, he attempted to convey his ideas to the King and the favourite without their perceiving that they were being taught the principles of economics by their doctor. The manner in which he carried out this intention was as bold as it was ingenious. The King was beginning to feel the boredom of life, and at Quesnay's suggestion he sought diversion in mechanical work. A set of turner's tools was got for him, and he made wooden snuff-boxes for the whole Court. Quesnay next spoke about printing, and a press was set up in the private apartments of the King, of which the doctor was placed in charge. Quesnay induced him and Madame de Pompadour to print one of his own writings; it was arranged that it should be an unpublished work, which should remain secret, and should at the same time afford occasion for the display of all the resources of printing, with notes, italics, capital letters, and so forth. For this purpose Quesnay drew up his *Tableau*, following it up with a series of maxims which he fathered on Sully. He presented the little book to the King, saying, "Sire, you have seen when hunting a great deal of lands, farms, and labourers. You are going to print an account of how these people produce all your wealth." The King, who was more interested in printing than in turning, set up about half Quesnay's booklet, and revised the book several times. He was too indolent to give his mind seriously to the subject, but in setting up the type he noticed the daring opinions expressed. These led him to say: "It is a pity the doctor is not in the trade (government). He knows much more about it than any of them." The edition was magnificent, but only a few copies were printed, and it is believed that no public library has a copy to-day. The exact date of printing is not known, but it would seem to have been at the end of 1758 or the beginning of 1759.

The *Tableau* was considered very obscure by Quesnay's contemporaries. He appears to have wished to make the system which he opposed to the mercantile system visible, and with that intention drew up a scheme of the circulation of wealth evidently based on the mechanism of the circulation of the blood. The doctor was not forgotten in the economist. The maxims are the most suggestive part of the work. In them he showed himself a strong partisan of free trade, and insisted that rulers should remove all hindrances to the development of agricultural production. He advocated a single direct tax, susceptible of increase in critical times and always paid by the landlord. In this way he hoped that the farmers, freed from the arbitrary control of the tax collectors, would be able without fear to improve their cultivation. He also advocated limitation by law of the rate of interest on money, so that the State should not borrow at usurious rates which attracted capital to Paris and diverted it from agricultural use. He was strongly opposed to what he calls "pecuniary fortunes," understanding by that not capital employed in agricultural, commercial, or industrial enterprises or in the development of landed property, but fortunes consisting in interest got from money or employed in the acquisition of useless offices, privileges, and so forth. These are, he said, fortunes which gnaw and oppress the nation; they know neither king nor country. It was dangerous at that time to criticize finance, and Mirabeau, who collaborated with Quesnay, was sent to the Bastille for having said in his work on the theory of taxation that there were no services without money, and that the King had no money to pay for services. Owing to the influence of Madame de Pompadour he was released after five days, but his work with Quesnay was interrupted. The work of the physiocrats was afterwards carried on in silence. Quesnay, who attacked the financiers in the booklet which he got the King to print, and touched up the work of Mirabeau in which the farmers-general were treated as vampires, must have felt that he was indirectly aimed at by the denunciation which sent his friend to the Bastille. This doubtless explains the disappearance of the copies of the *Tableau* which had not been distributed. They were seized and probably destroyed.

The death of Madame de Pompadour in 1764 deprived Quesnay of most of his influence. But when he was deserted by personal friends disciples gathered round him and the "physiocratic" school was founded. It seems probable that the word itself was invented by Quesnay. Its principles are set forth in a collection of Quesnay's writings, entitled *Physiocratie ou Constitution naturelle du Gouvernement le plus avantageux au genre humain*, which appeared in 1767. The essentials of the doctrine are embodied in the motto on the title-page—

> Ex natura, jus ordo et leges;
> Ex homine, arbitrium regimen et coercitio

—which implies that the government most beneficial to the human race originates not from the arbitrary regulation and control of men, but from right order and obedience to the laws of Nature.

Towards the end of his life Quesnay fell upon evil tongues and evil days. The physiocrats became unpopular because to their teaching was attributed the dearness of bread which followed a bad harvest in 1767. In 1770 Senac, first physician to the King, died, but Quesnay was not named in his place, and in the last illness of Louis XV in 1774 he took no part in the consultations. Louis XVI had not the same regard for Quesnay that had been shown by his grandfather.

Quesnay was a martyr to gout, the pain of which he bore with patience. His conversation was lively, and he kept at work till the very end. Among other things he applied himself to mathematics, which he had neglected, but he was led astray into fancying that he had squared the circle. He died at Versailles on December 16th, 1774.

In Quesnay the social philosopher was not separated from the economist. Coming from the plough and prepared for observation by his medical studies, he began by seeking for the causes of agricultural distress and the means of remedying it. He laid the foundation of the theory of free trade. Henry George dedicated his book, *Protection and Free Trade*, to the memory of Quesnay and his friends "who in the light of despotism have foreseen the splendours of the new era." Quesnay's position at Court made it difficult for him to write freely, and he had little literary faculty. Therefore he required disciples to help him. He made them work under his eyes and constantly stimulated them. His little apartment at Versailles was a sort of workshop where, as in the case of old painters, pupils worked under the direction of the master. It was not a little thing to do to influence Madame de Pompadour, and through her the King, to take an interest in economic questions. The physiocrats, however, never gained much influence with the public even in their own country. This was due to the dryness of their style. Some of their doctrines, too, were regarded as chimerical, and were ridiculed in contemporary literature, as by Voltaire, who laughed at the single tax in his *L'Homme aux Quarante Ecus*. They were too absolute in their belief and too rigid in their doctrine, which they held to be universally and immediately applicable in practice. They did not take into sufficient account national diversities or different stages in social development, nor did they adequately estimate the impediments which ignorance, prejudice, and interested opposition presented to statesmen.

THE GENERAL MEDICAL COUNCIL AND THE PROPOSED ALTERATION IN THE STANDARD OF PRELIMINARY EXAMINATIONS.

BY

SIR HENRY MORRIS, BART., M.A., M.B.LOND., F.R.C.S.

WHEN in November, 1910, the General Medical Council, with the object of raising the standard of preliminary education, resolved on making certain changes which were to date from January 1st, 1914, it was felt by some competent critics that the time for doing so was inopportune because of the falling off in the number of students entering the profession.

It may be thought, however, from the statement recently made as to an increase of 165 students registered in 1912 over the number registered in 1911, and as to the total number registered in the year 1912 coinciding with the average yearly number of the five preceding five years, that this objection no longer exists.

But the increase is apparent, not real. It is due to the fact that a large number of students, owing to recently altered regulations, were enabled to register in 1912 instead of a year or so later; and when this number is discounted, the real increase for the year 1912 is only 80, and the total number of entrants is considerably below the average of the previous five years, although it exceeds the total for the year 1911.

What, however, is of greater importance than any question as to the "how" and "when" of raising the standard of existing examinations, is the urgent need of the several universities and examining bodies in the United Kingdom uniting to foster the establishment of a recognized school-leaving certificate; of a certificate which, without indicating a uniformity in kind of the education received, and without pretending to imply an exact identity of standard, will yet be a sufficient proof of a sound general education to admit the holders of it to any university or to the curriculum of study for any professional or scientific calling.

The entrance to a university or to a profession ought not to be barred by (in the words of Huxley) "any absolute and defined preliminary examination, the passing of which shall be an essential condition of admission to the University." The instruction of a university, or that required for any professional career, ought, to be accessible to every one who is fit to take advantage of it, although he may not have been prepared at school to pass a particular "absolute and defined preliminary examination."

It is the want of a universally recognized and accepted school-leaving certificate which handicaps students, and is so embarrassing to school masters. It is this want which has been and is the chief obstacle in the way of many an excellent and accomplished student taking a university degree which otherwise he was fully competent to do; or changing from a profession for which he finds himself unfitted, or to which he has taken a dislike, into one for which he has developed a liking and realizes an aptitude. It is the difference between the educational course they have pursued and the character of the particular entrance examination which they too late discover they have to pass, and not because their education and grounding are deficient or inferior, that under present circumstances keep the door shut against many students who are even more capable and better instructed than some of those who have been allowed to pass through the portal.

The General Medical Council could not exert its influence in a better cause than in reiterating its desire that the Board of Education and the Oxford and Cambridge School Examination Board should co-operate in getting established such a certificate; in soliciting the universities, the State, and the local authorities to take steps to standardize the different inspections by making the inspection a joint matter between them; in trying to induce the head masters of all the secondary schools of the country to have their schools officially inspected; and in urging the various universities and licensing bodies to accept such a school-leaving certificate, without requiring anything else.

Pending the establishment of such a certificate the Council, voicing as it does the whole profession, would go a long way towards bringing about compulsory inspection of secondary schools if they could induce the universities and examining bodies of England to admit as candidates for their examinations (except, perhaps, in certain special cases) those only who have been educated at inspected schools.

But were such a desirable goal reached at home, it would still be advisable for the guidance of those Indian and Colonial examining bodies who already are recognized, or who in future desire to be recognized by the General Medical Council, that information should be given to them as to what should be the scope, character, and standard of their preliminary examination in general education.

The revision of the existing Recommendations of the Council whereby such information is at present conveyed alike to the examining bodies at home and in India and the Colonies has occupied much of the attention of the Education Committee since November, 1910. These Recommendations, which, on the joint advice of three educational experts, were adopted by the Council in 1900 and have ever since been in force, were, with "three important changes," reaffirmed in a report of the Education Committee in 1911. Two of these suggested "important changes" are (1) the increase of the percentage of marks required for the pass, and (2) the abolition of compensation between subjects. This report of the Education Committee was merely entered on the minutes of the Council.

Six months later—namely, in June, 1912—precisely the same proposals were again entered on the minutes of the Council. On neither of these occasions was the approval of the Council moved. On both occasions, on the contrary, a motion was proposed, though not carried, to refer the report back to the Committee.

In the reports of 1911 and 1912 the Sections I and II, which refer to "the character of the examination" and "the distribution of marks," are word for word the same as the Recommendations of the year 1900; whereas Section IV, as to "the Minimum Percentage of Pass," is entirely different, the pass marks then suggested being much higher than those recommended in 1900. Another important difference is that Recommendation IX of 1900 specially provides for granting compensation when the four subjects are taken at one examination "if the candidate reach the necessary percentage in the aggregate marks of his papers as a whole, provided that the required pass mark must be reached in the English paper"; whereas the reports of 1911 and 1912 suggest that "no pass should be granted in any subject when the percentage gained in the subject is less than that which is stated in Section IV of those reports."

Again, Section VII of the Recommendations of 1900, which allows of each of the four subjects of certain senior examinations being passed separately, is omitted from each of the reports of the Education Committee.

Since June, 1912, the Education Committee has been engaged in obtaining the opinions of the chief examining bodies, including those of India and the Colonies, on the proposals of the Committee; and now after nearly twelve months' interval the Committee has at the session just ended submitted a third report to the Council.

On comparing Sections I and II of this last report—which sections were adopted by the Council yesterday (May 30th)—with the corresponding sections of the Recommendations of 1900, several trifling alterations, chiefly, but not entirely, of a verbal nature, will be found. But the most important fact to mention, and, so to speak, what has cut the entire character of Hamlet out of the "Prince of Denmark," is the rejection by the Council of the whole of the section dealing with the raising of "the Minimum Percentage of Pass, in each subject."

Thus the various examining bodies—including the revised list of Indian and Colonial bodies conducting examinations recommended by the Committee to be accepted by the Council and mentioned in Division B of the report as having "*intimated their readiness to adopt immediately the new standard proposed*"—are left with no other standard of marking but that of 1900. And as the only allusion to "the abolition of compensation between the subjects" is in the first or historical section of Division A of the adopted report, the judicious and just No. IX of the Recommendations of 1900 obviously also remains *de facto* intact.

In a word, except for any indirect effect which the communications which have passed between the Education Committee and the various examining bodies may have upon those bodies, the decisions arrived at on May 30th by the Council, after two and a half years of deliberation by, and three reports from its Education Committee, give this result, namely, that in the words of the approved preamble, "the recommendations adopted by the Council to indicate the scope and character to be maintained in any preliminary examination in general education for which recognition is sought as qualifying for admission to the students' register" are substantially and essentially those which were adopted by the Council in 1900.

The consenting examining bodies are, therefore, now in the same quandary as children who have been encouraged to hope for a box of new toys, but who, finding the new toys have been withheld, are left with nothing but the empty box and the old toys to play with. Unless some change is agreed upon at the session of the Council in November next, the recommendations as to what should be the standard of the examinations on and after January 1st, 1914, will remain precisely the same as those of the last thirteen years.

May 31st, 1913.

ONE HUNDRED YEARS AGO.

MEDICAL REFORM IN 1813: AN ABORTIVE BILL.

IN the half-yearly report of the progress of medicine from January to June, 1813, which is dated June 1st, 1813, and appeared in the July part of the *Medical and Physical Journal*, a considerable amount of space is given to the subject of medical reform. The previous half-yearly report had also concerned itself largely with the same question.

The matter in controversy was the position of the apothecaries, who included in their ranks, it must be remembered, not only persons practising pharmacy but also many of those who exercised the arts of physic, surgery, and obstetrics. There was need, urgent need, for some legislative enactments to systematize and safeguard and elevate the privileges, position, and status of the apothecaries, who were really the general medical practitioners of the time. But there were also the Colleges of Physicians and Surgeons of London with their Charters, and their well established and predominant influence; "they," said one of the reports referred to, "felt every attack on their privileges like a wound." Against the "mighty hosts" of the two Colleges the "little phalanx of Apothecaries," strictly so called (that is, including under that name solely persons practising pharmacy alone), would be helpless, unless it were "reinforced with the strong arm of the country practitioners." At the time to which we allude (June, 1813) some such reinforcement had taken place, and a committee of the "Community of Associated Apothecaries and Surgeon-Apothecaries" was preparing a bill for the House of Commons. Indeed, a bill, "immature, hurried, imperfect, and defective in detail, though incontestably sound in principle," had been presented, but fortunately it had been withdrawn before the second reading, to be "revised and improved."

The writer of the 1813 report was strongly of opinion that there was need for some measure which should substitute for the "heterogeneous mass assuming the title and functions of medical practitioners, persons properly educated, of ascertained qualifications, respectable by the class of society whence they were taken, and by having passed through the series of essential gradations." The expression "heterogeneous mass" is defended in a footnote, for which room must here be found for its graphic delineation of the practice of the day, if for no other reason:

> The mass of the medical faculty of the British Empire is, indeed, an heterogeneous compound. Physicians, doctors of the English universities, fellows of the Royal College, versed in all human science, learned, honourable, and approximating to the "corinthian capital of society," are "pushed from their seats" by doctors of no universities, unlearned men and even women, without science, and without honor. The Abernethys, Coopers, and Brookes's have opposed to them self-created surgeons, raspers of shin-bones, advertising gonorrhœa cures, and men whose chirurgical knowledge has been acquired by carrying a box after the dresser at a hospital. The legitimate apothecary is circumvented by the druggist who was yesterday a grocer; by the chemist who hardly knows a crucible from a cauliflower. To the educated physician, to the regular surgeon, to the instructed apothecary, this is personally, perhaps, unimportant; but what is it to the public? pain, mutilation, death. London, that common sewer, teems with this surreptitious multitude. From Tower-hill, a doctor advertises that "all persons afflicted with any complaint *whatever*, may have an easy, speedy, and certain cure, without confinement," by applying to the said doctor. Mrs. —— cures the king's evil radically, and, what is more, safely too. Another benevolent female, at Battlebridge, continues, as usual, to cure consumptions; and still another, at Islington, cures cancer. Even at the college-gate of Edinburgh lived, very lately, a female "*practitioner in medicine*" from England; and the druggists of a Midland county at this moment are querulously complaining that a horrible attempt is making to take from them the privilege of prescribing for the sick.

Truly, if things were as bad as this, or half as bad as this, there was sore need for some Act of Parliament to protect society against these dangerous quacks, dangerous to the health of the community as well as to its pocket.

The apothecaries were, to begin with, simply persons who kept shops in which were sold spices, drugs, comfits, preserves, and the like; but gradually some of these goods were dropped, and in 1617 the Apothecaries' Company of London was separated from the Grocers', and incorporated. Under this charter of the time of James I (and VI) the apothecaries of London practised their art for nearly two centuries, until, in point of fact, the year 1813, of which we are speaking. At first they simply prepared and sold drugs for medicinal purposes, the work which is now carried on by the druggist and pharmaceutical chemist; but from about the beginning of the eighteenth century they began to take a place as general medical practitioners. A correspondent to the *Medical and Physical Journal* (p. 48, July, 1813) traces the entrance of the apothecaries into medical practice back to the year 1666. "I find," he wrote, "that the apothecaries had very little employment as prescribers of medicine till the time of the great plague, when the *physicians*, taking the alarm, *honestly* and *disinterestedly* ran away, but the *apothecaries* kept their proper posts, and as far as they were able assisted the sufferings of their fellow creatures; after which they rose into estimation, and from that time to this have either legally or illegally practised."

At any rate, in 1813 they were so practising, not only in London, but all over England; indeed, those who practised pharmacy alone were few in number, compared with those who exercised all the branches of the profession. They were still, however, working, although in very different circumstances, under the old charter of 1617–18. Almost the only cognizance which the law had taken of the changed conditions was the exemption of apothecaries from serving on juries or other civil offices which came into force in 1712. The application to the Legislature in 1813 could not, therefore, be termed hasty; neither was it unnecessary or uncalled for. The three main objects in view were the improvement of the school education of the apothecary and surgeon-apothecary; his instruction in the elements of science; and the prevention of unqualified persons entering this department of the profession, by means of the barrier of a strict examination. These main aims were, unfortunately, weighted by and almost hidden under a great number of other matters, side issues, and conflicting interests; and, worst of all, the privileges and rights of the College of Physicians and of the Court of Assistants of the College of Surgeons were, or rather seemed to be, affected injuriously. The Colleges stood on the one side, and on the other was the London Committee of the Apothecaries, now (in 1813) strengthened by the inclusion of deputies or delegates from the county districts of the whole of England and Wales. Here we see the beginning of something of the nature of a national association of medical practitioners, a something which was to be followed in 1832 by the British Medical Association. The immediate result, however, of the enlargement of the Committee of the London Apothecaries, and its conversion into the Committee of the Community of Associated Apothecaries and Surgeon-Apothecaries was delay; for a joint meeting revealed such complexities and so great need for adjustment of rival claims and the like that the pressing of a bill through Parliament had to be postponed.

These joint meetings of Apothecaries and Surgeon-Apothecaries, "at the Crown and Anchor," must have

been very interesting events. Here is the brief report of one of them:

The London Committee having met the Deputies of the County Districts (who came from the most remote parts of the kingdom) on Tuesday the 23rd inst. (April, 1813), at the Crown and Anchor; and, on Wednesday the 24th, a General Meeting of the London practitioners being convened at the same place; so many new views of the subject were developed, which promised so much improvement to the plan, that the Committee has thought it expedient to withdraw the Bill for the present session, with the avowed intention of submitting it to parliament next year, under circumstances of considerable melioration.

Dr. George Man Burrows, chairman of the Association of Surgeon-Apothecaries, presided over these meetings; he had himself been apprenticed to an apothecary at Rochester, had qualified at the College of Surgeons and Apothecaries' Hall, and was in general practice in London[1]; he was therefore well fitted to preside, being able to sympathize with the various interests at stake.

Much of what was said in these meetings is now of no moment; but one fragment which has been preserved almost accidentally is of some interest. The question under discussion was whether the London Committee, even with its added honorary members, representing Colchester, Hampton, Putney, Hampstead, Plaistow, Richmond, Clapham, and Tunbridge Wells, could be said properly to represent the "mixed" practitioners of England and Wales. One member was stung to ask, using an expletive not often heard in debate, "can it be admitted that Liverpool, Birmingham, Manchester, Exeter, Gloucester, Newcastle, Bristol, Bath, the universities, will confide their interests to four or five villages in Middlesex and Essex; that Tunbridge Wells shall represent the numerous, powerful, and never-submitting men of Kent?"

As is usual during such controversies, the medical papers were full of letters. Here are extracts from two letters, one of them written in dread lest the apothecaries should get the upper hand altogether, the other penned with a measure of far-sight which seems to have been rather rare at the time. The first is from a letter signed "Salus publica":[2] "Let us all retain our proper places, and the medical profession will afford fame for many, and a fair reward for all; but, when the floodgates are removed, and the rushing torrent breaks down its banks, I confess I see nothing but desolation and ruin for the country round." The "rushing torrent" of this writer was the crowd of apothecaries, better educated, and with a licence, and able to make legal claims for fees. "Let them only be confined to their proper sphere—let them compound, dispense, and deliver"—that is "Salus publica's" safeguard. The other extract is from a letter to Dr. G. M. Burrows, signed "C. W. S.," and the writer, seeing right into the heart of the matter and correctly gauging the real needs of the profession, said: "I think the bill might with a great deal of propriety be termed that of the general practitioner in medicine, surgery, and midwifery, in which the apothecary would be considered as included."

To make a long story short, the Apothecaries did not get their Act in 1813, nor yet in 1814, but only in 1815 (55 Geo. III, c. 19); and it was not all they wished, having to be amended in 1825 (6 Geo. IV, c. 133). By it the London Apothecaries' Company had its practice regulated, and its authority extended over all England and Wales. No person, not already in practice, might for the future practise as an apothecary, or apothecary's assistant, without passing an examination as to his fitness, and obtaining a certificate of his qualification. Armed with his certificate he could recover charges in a court of law. The Act, however, left undefined what "practising as an apothecary" was, and it was not till many years afterwards that it was settled to be "dispensing, mixing medicine, giving medical advice, and attending the sick as medical adviser."

It was, however, a distinct and notable beginning in medical reform. It left much unsettled; and it had to be followed by the Medical Acts of 1858, 1859, 1860, 1876, and 1886; indeed, it was not till the Apothecaries Act, 1907, had passed that the Society of Apothecaries was entitled to grant to those passing its qualifying examination the diploma of Licentiate in Medicine and Surgery (L.M.S.S.A.); but it opened the way for much that was sorely needed in regard to the state and the status of the profession, that "heterogeneous mass assuming the title and functions of medical practitioners." This too must be said for the Society of Apothecaries, that when the time came (in 1874) they were ready to admit women to the examinations required for certificates to practise as apothecaries, leading the way once more in another department of medical reform.

[1] *Dict. Nat. Biog.*, vii, 450.
[2] *Med. and Phys. Journ.*, xxix, 279, April, 1813.

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SEVENTEENTH INTERNATIONAL CONGRESS OF MEDICINE (LONDON, 1913).

Volunteer Interpreters Wanted.

It is hoped that members of the Congress who speak foreign languages will be willing to wear a small badge denoting the language they can speak, as such an arrangement will be a great convenience to foreign visitors. If those who will consent to this will communicate with the General Secretary, 40, Wimpole Street, W., he will be very grateful.

Section of Radiology.

This is the first time there has been a Section of Radiology included in the International Congress of Medicine. And every effort is being made to show that the advance in this branch of medical science fully justifies the formation of a separate section.

The section, of which Sir James Mackenzie Davidson is president, deals with *x*-ray work in all its branches and with radium therapy, but does not include electrotherapeutics. This subject is dealt with as before under the heading of Physiotherapy, a subsection of the Section of Therapeutics. Some little irritation is apparently felt on the Continent at the non-inclusion of electrotherapeutics. The formation of a separate Section of Radiology has, however, been entirely due to the energetic action of radiologists. There has been no special effort on the part of electro-therapeutists either to obtain a section for themselves, or to be included in the Section of Radiology, until too late, and therefore it behoves workers in this branch of medicine to see that they are more adequately represented at the next congress.

The morning meetings of the Section of Radiology are to be devoted to discussions of special interest and the afternoons to the reading of papers. The meetings will be held in a lecture theatre in the new School of Mines at South Kensington, which can be completely darkened, and will be provided with a lantern for the demonstration of lantern slides; provision will also be made for the illumination of original negatives where this is considered necessary. In the museum a room will be set aside for the exhibition of transparencies, and adjoining this room will be a continuation of the department of radiology, in which apparatus, skiagrams, and other daylight exhibits can be shown. Members wishing to exhibit should communicate with Mr. H. W. Armit, Honorary Secretary of the Museum Committee.

The following is the list of the discussions, together with the reporters selected for each:

The radiography of the stomach and intestines (Dr. Holzknecht and Dr. Leonard); That of the chest (Dr. Hugh Walsham and Professor Wenckebach); The radiotherapy of malignant disease (Dr. Abbé and Dr. Kienböck); Roentgen and radium therapy in gynaecology, a joint discussion with the Section of Obstetrics and Gynaecology (Dr. Albers-Schönberg, Dr. Foveau de Courmelles, and Professor Krönig); The radiography of bones and joints in its value in orthopaedic surgery, joint discussion with the Subsection of Orthopaedics (Dr. Fedor Haenisch, Dr. Nové-Josserand, Dr. P. Redard).

Many offers of papers have been received, but the final selection of these has not yet been made. Preference will be given to papers received before April 30th, and no paper can be considered unless the title has been received by the Secretary before July 1st. Any members wishing to read papers, and who have not yet made application, should communicate at once with Dr. G. Harrison Orton, Honorary Secretary, 67, Upper Berkeley Street, Portman Square, W.

A dinner will be held, probably on August 8th, to which members may bring their lady friends, and the Electrotherapeutic Section of the Royal Society of Medicine and the Roentgen Society are arranging jointly for an entertainment to take place after the dinner. A committee of ladies has been formed to look after the interests and make arrangements for the entertainment of foreign ladies, but the final arrangements are at present necessarily incomplete.

MEDICAL DEFENCE UNION.

The annual general meeting of the Medical Defence Union was held this year in Exeter on May 29th, when the President, Dr. E. G. Barnes, was in the chair.

Annual Report of Council.

The annual report contained a general statement by the council itself, a report from the solicitor of the Union, a special note on indemnity insurance, and the report of the Finance Committee.

The general statement indicated that the work of the year had been carried out to the complete satisfaction of the council, and that there was reason to believe that this was fully shared by members. Applications from the latter for advice and assistance were so numerous that even in August, usually a slack month, the executive was fully occupied. Much of the extra work was due to the Insurance Act, a measure which the council regarded as certain to make the existence of the Defence Union more necessary than ever. In this connexion the council pointed out that medical men whose duties included insurance work were liable to have their conduct challenged now not only by their patients, as in the past, but also by the Insurance Committees, and that the risk in this connexion was all the greater because the final decision as to how many patients he should accept did not rest in his own hands. The council also recorded in detail sundry negotiations with the Insurance Commissioners, and the dictum obtained from the authorities at Buckingham Gate as to there being nothing in the Act itself or in the regulations drawn up under it, or the rules of any approved society, which would justify a society in declining to accept a medical certificate on the ground that it was not signed by a doctor on the local panel. The passages relating to this matter were no doubt drafted before the hearing of the appeal action on the same subject, the upshot of which was recently recorded in our columns (May 10th, p. 1033). In connexion with an account of the measures by which the council succeeded in getting erased from the *Medical Register* the name of an impostor last November, it was mentioned that the Union was investigating four other cases of apparently like character. The statement concluded with a long list of subjects on which the council had been consulted, a note on the desirability of members applying for assistance as soon as a cloud appeared upon their horizon, an expression of belief that the Union was growing in repute and prestige every year, and regret at the death of one of its vice-presidents, Dr. Herbert Manley.

The solicitor's report recorded that his advice had been sought in 175 matters; 47 related to libel or slander actions; 42 to the defence of members in action for malpraxis brought or threatened; 11 concerned the suppression of unauthorized practice; 46 dealt with questions regarding the interpretation of deeds of partnership and claims arising under articles of appointments; and 29 with miscellaneous matters, such as the representation of practitioners at inquests and the adjustment of claims for giving evidence. Two of the cases involving legal action were settled by payments but all the others were successful. There was evidence during the year of a kind of epidemic of actions against medical men in the Liverpool and Manchester districts, but it is hoped that the people in that area have now learnt the Union's strength. Stress was laid in the report on the desirability of members who require the help of the Union in connexion with slanders obtaining at the earliest possible moment signed statements from persons who are in a position to speak personally of the fact of such slanders being current. The Union regards the obtaining of such statement as an essential preliminary to legal actions, even though members sometimes regard this precaution as somewhat of a grievance.

The note on indemnity insurance dealt with the conditions on which insurances were granted by the Yorkshire Company and made it quite clear that such additional insurances might be taken out or otherwise as the member wished, the Union itself being ready to pay, as always previously, the actual cost of the member in defence, apart from the costs of the other side in lost actions, and any damages which might be imposed by the court.

The financial statement included an interesting table showing the total amount which had been paid by each of some twenty-four members in the way of membership fees and the law cost incurred by the Union on their behalf during the concluded year. The balance-sheet showed liquid assets amounting to over £5,000, in addition to moneys due for the current year and arrears. The membership roll included 8,530 members.

President's Address.

The Insurance Act.

The President gave an address on the subject of the Insurance Act, in the course of which he said that he would not go into the vexed history of the past, but would deal with the subject from the point of view that the Insurance Act was the law of the land, that it was being more or less successfully worked throughout the United Kingdom, and that at the present time 14 millions of insured persons were receiving medical treatment at the hands of 18,600 doctors, an average of 750 insured persons to each doctor, for which service an average of £262 10s. per annum was paid exclusive of drugs. A change like this could not fail to have very decided consequences for good or for evil on the nation at large, on the insured persons in particular, on the friendly societies, on the hospitals, on the medical profession, and on the chemists.

The effect on the nation at large was that another step had been taken by modern legislation towards the increased taxation of the classes to ameliorate the condition of the masses—a step tending to the improvement of the conditions of labour, and especially of so-called manual labour, by placing medical benefits in sickness within the reach of all. They welcomed such a provision for the really poor, but they felt that it should be strictly guarded by a suitable income limit which should render it impossible for those who were in receipt of incomes in many instances larger than those of the medical men attending them to claim medical attendance as contract rates. The effect of the Act on the insured person was also complex; to many it was an undoubted boon, though hampered by red tapeism and vexatious delays, due mainly to the undue haste with which a vast scheme was brought into existence. To those insured who pay through the Post Office, the Act was a mockery, a delusion, and a snare, and it could not be too widely known that the only means of securing the real benefits of the Act was through an approved society. The Post Office contributor had only the sum paid for his individual insurance to his credit, and as an example he pointed out that with the Act only in existence a few months, that sum was so small, that, after payment of management expenses and the medical capitation fee, a claimant for maternity benefit found only 7s. or 8s. instead of 30s., and a claimant for sickness benefit found that it lasted but ten days or a fortnight. The effect on the old friendly societies was somewhat difficult to gauge; undoubtedly they had in some respects reason to think that after the pioneer work they had done for so many years the Act had not been too generous to them. It had exposed them to the keener competition of insurance companies, who, with their agents calling week by week to collect payments, and to pay sickness benefits without trouble to the insured persons, were building up a large increase of business. Another—and to them the most satistory—result had been that, owing to the free choice of doctor and the abolition of the club doctor, the friendly societies could no longer exercise the grinding pressure they had so often done in the past on the less fortunate members of their profession; indeed, in his opinion, that was one of the very few really satisfactory results of the National Insurance Act. The chemists, too, were directly affected by the Act—a large amount of dispensing hitherto done by doctors was placed in their hands, and to that many members of the profession strongly objected. On the other hand, there was little doubt that the tendency of the Act would be to check the large amount of counter-prescribing hitherto done by chemists.

As to the effect of the Act on the medical profession, he made bold to say that, whilst it was by no means a boon, it was not an unmixed evil. The conditions under which the profession worked were so varied that it was impossible to pronounce definite opinions, except as partial truths.

In London, and generally in large towns, they might recognize three distinct classes of practice, which were affected in different ways. They had, in the first place, a class of practitioners who were almost entirely unaffected by the Act, and whose practices would continue much as they were before it was introduced, such are hospital physicians and surgeons, specialists, and those general practitioners whose work laid mainly amongst the upper classes of society. The second class, whose work lies mainly with the middle classes, would be most affected. Many persons, such as clerks, shopmen, and domestic workers, who had hitherto paid their small accounts with regularity would become insured persons and be lost to private practice, and these practitioners had an anxious question to decide, whether they should join the panel or retain their full independence; and to such the act was an unquestionable evil. The third class—those who had had mainly working-class and club practices—would distinctly benefit under the Act; their rate of payment would be increased by more than 50 per cent., and taking into account the cost of drugs, would in many cases be doubled: the Insurance Committees with their medical members and members chosen by the county councils influencing, though not controlling, their proceedings would be better masters than the old club committees, composed exclusively of working men; and the free choice of doctor would give them more independence than under the old system. On the other hand, they would be more worried by book-keeping and red tape. One effect of the Act, which was much to be deprecated, would be the formation in towns of two distinct classes—panel and non-panel doctors. In the country places, however, the evils of the panel system would not be so great; the rural doctor had in some respects been the true general practitioner; he had attended all classes of patients from the peer to the pauper; he had had all classes of practice—obstetrics, medical cases, emergency operations, such as hernias and appendicitis, anaesthetics, accidents of all sorts—and his work trained him to all emergencies without the hospital and the hospital staff to fall back upon. The panel system would be no loss of caste to such a man; he would retain his better-class patients: he would diminish his bad debts and get a better average pay for the poor he must, in humanity, attend. The effect of the Act on hospitals could hardly be estimated. It might not improbably seriously affect their finances, as people who had to lick insurance stamps would correspondingly be less willing to subscribe to secure hospital treatment for their dependants. The in-patient departments would be as much wanted as ever, but it might, he hoped, be expected that the attendance at the out-patient rooms would be much diminished. The experience of the Medical Defence Union had made painfully apparent the enormous impulse given to that section of the profession who sought to attract patients by the advertising methods of the quack. If that were not speedily checked, the result must be a lowering of the profession in the eyes of all right-thinking men.

The defects of the Act which should be removed were numerous. The book-keeping difficulties which first existed (a cumbrous day-book and ill-designed carbon prescription books which would not be tolerated in a third-class restaurant) were fortunately giving way to simplified forms and a reasonable card system; but whilst book-keeping in any form seemed to be specially obnoxious to medical men, it must be remembered that the keeping of such returns as were now required were necessary in the interests of medical men. They were necessary because without them the profession would be unable to gauge the amount and character of the work done, and therefore unable to ascertain how far the present payments were adequate or inadequate. Dr. Barnes believed that if medical men generally had kept as close records of their club practice as of their private work, they would have been able long ago to have demonstrated in an incontrovertible manner the inadequacy of club pay, and would have had a far better chance of securing better terms under the old club system, and also have had a mighty weapon to deal with the Insurance Bill before it became an Act. Another pressing and difficult question was how to provide the medical attendance promised by the Act to itinerants—persons moving from one district to another to convalesce from illness, or to obtain home nursing and comforts during illness. The scheme of the Commissioners, which took money from the panel doctors in the district from which they removed to pay for actual work done by the doctors of the district into which they went, was unsatisfactory, inasmuch as it involved a distinct breach of the agreement under which each practitioner was entitled to 7s. per annum for each person on his list. If an attempt was made to carry this out it would be incumbent on the Medical Defence Union to take the highest legal opinion, and if that opinion confirmed the statement that he had ventured to make, to carry a test case even to the Court of Appeal. There were only two ways in which this question could be dealt with in fairness to the profession. But one—namely, to leave these casual cases to be treated as private patients, as had been the case under the old club system—was prohibited by the lavish promises made to the insured by the authors of the Insurance Act; the other way was for the Government to redeem its promise to the insured by making a special grant for this purpose, and this it at present refused to give.

Another crying evil was the almost complete absence of payment for mileage in country districts. The Government had made an utterly inadequate grant for this purpose, and it behoved every Medical Committee to see that application was made to the Commissioners for participation in this grant, and to support this application by all the evidence obtainable. Though this meant much trouble for the hope of, at the best, an inadequate reward, yet it should not be neglected, for it was an important step that the justice of the claim had been admitted by any grant, however inadequate, being made. The principle having been admitted, there was hope that with clear demonstration of the facts a more adequate grant might some day result.

Another point of principle to which the energies of the medical profession should be directed was the absence of any provision for payment of fees to medical men necessarily called in to administer anaesthetics or to assist in emergency operations. This was not only unfair to the practitioner, but was distinctly contrary to the principle of the Act to provide adequate medical attendance to insured persons. Among other matters towards the removal of which in any amending Act the profession should devote itself whole-heartedly were the enforced duty of attending insured persons for diseases brought about by immorality and misconduct; the encouragement of illegitimate births by the payment of maternity benefits to unmarried women; and the inclusion of attendances on abortion and premature confinements in the capitation fee.

An important matter which could be dealt with without an amending Act was the multiplication of medical certificates which many approved societies were seeking to insist upon. It should be sufficient to give a simple certificate that John Smith was incapable of following his occupation through sickness or accident, without any mention of the nature of that illness, and thus avoid all danger of libel actions founded on certificates incautiously or inadvertently given to unauthorized messengers; a weekly certificate of continued inability to work, and a final certificate of ability to resume work should complete the series of compulsory certificates. All other certificates, either more amplified or duplicated, should be paid for by the person needing them. In the meanwhile, if medical men were compelled to state the nature of the illness on certificates, it was incumbent on them to insure themselves against possible danger by the help of the Medical Defence Union and of the Yorkshire Insurance Company.

Another grand defect of the Act was the encouragement given to malingering, of which ample evidence was already forthcoming. This could only be checked by the appointment of medical referees, on whom should lie the onus of refusing sickness benefit rather than on the attendant practitioner alone.

In conclusion he uttered a word of warning: "The friendly societies were much concerned with the conditions under which such old members who did not come under the Insurance Act could receive medical benefit, and plead old age, infirmity, and long membership as reasons why the 7s. of the Insurance Act should in their cases be reduced to 4s. or 5s., and also that women and children should be attended at inadequate rates. He feared that

from many causes, from a feeling of charity, from the competition of medical institutes, from unfair competition between members of our profession, those somewhat plausible though shallow arguments were being allowed to succeed—but surely, such a policy on the part of the profession was extremely short-sighted; the work was admittedly fully worth the 7s. exclusive of drugs, or the 9s. inclusive of drugs, fixed by the Insurance Act; and when, as they were promised, in a very short time the Act was extended to include women and children, some future Chancellor of the Exchequer would use with telling effect the argument that he was merely taking the profession at their own valuation, when he offered them and expected them to accept the inadequate rates of payment now being accepted by many. The experience of the past two years ought to show them the folly of undervaluing their own services as they had done in their dealings with friendly societies in the past. It was only fair to acknowledge that, with respect to medical institutes, the Commissioners by requiring, as to his personal knowledge they had required, that they should not interfere with the free choice of doctor by their members and that they should produce duly audited accounts and only be able to claim what they actually expended in providing medical benefit, showed that they were determined that the Harmsworth amendment should not be made a lever to defeat the true intent of the Act."

The usual statutory resolutions were passed, and one resolution added in respect of the payment to members of the council of out-of-pocket expenses should attendance at a council meeting necessitate their stay in London for the night.

Dr. Edgar Barnes, Dr. Gunton Alderton, and Mr. Larkin were re-elected members of the council.

A vote of thanks to the President and Council for the valuable work done for the members during the past year was carried with acclamation.

ROYAL MEDICAL BENEVOLENT FUND.

AT the May meeting of the Committee thirty-six cases were considered, and grants amounting to £300 made to thirty of the applicants. Appended is an abstract of the cases relieved:

1. Wife, aged 48, of L.R.C.P., L.R.C.S.Edin. No income, and since her husband broke down mentally six years ago has endeavoured to support herself by taking boarders. Two sons, aged 20 and 17, who will, it is hoped, soon be able to give slight assistance. Relieved three times, £45. Voted £15.
2. Daughters, aged 54 and 47, of late M.D.Aberd. Each has an income of about £20 a year, but is unable to supplement it owing to permanent ill health. Voted £5 each.
3. Widow, aged 42, of M.R.C.S., L.R.C.P. Practically unprovided for at husband's recent death, but having many friends in the neighbourhood hopes to maintain herself by receiving boarders. Three children, aged 15½ to 2. Voted £10.
4. M.R.C.S., aged 73. Incapacitated by paralysis and practically destitute. No children. Voted £20.
5. Widow, aged 58, of M.R.C.S. Supported herself for some years by designing lace, but is now incapacitated by an incurable complaint. No children. Voted £10.
6. Widow, aged 62, of M.D.Aberd. Only certain income £12 a year. No children. Voted £12.
7. Daughter, aged 43, of late M.B.Lond. Was partially provided for, but lost her capital through unfortunate investments and is now without any means. Receives a home in return for services, but being in bad health is unable to obtain a salary. Voted £5.
8. Daughter, aged 36, of late M.R.C.S. Has been a clerk at a large draper's, but left through no fault of her own, and has quite exhausted her small savings. Voted £5, with leave to apply again if necessary.
9. Daughter, aged 85, of a surgeon in practice before 1815. Only income a pension of £13 a year. Voted £12.
10. Widow, aged 42, of L.R.C.P., L.R.C.S.Edin. No income; tries to support herself by nursing, but finds it impossible to obtain regular work. Two children, aged 18 and 9, the elder just self-supporting. Relieved seven times, £55. Voted £5.
11. Daughter, aged 58, of L.R.C.P.Edin. Exhausted small saving in the attempt to establish a small business, and now dependent on a weekly allowance from a friend, and small earnings by needlework. Relieved eight times, £64. Voted £10.
12. Widow, aged 79, of L.R.C.P.Edin. Only income an old age pension. Husband was an Epsom pensioner. Relieved once, £12. Voted £12.
13. Widow, aged 50, of L.R.C.P.Edin. No income; slight help from two sons who are sailors. Relieved nine times, £99. Voted £12.
14. Daughter, aged 74, of late M.R.C.S. No income, and entirely dependent on uncertain help from relations. Relieved once, £12. Voted £12.
15. Daughters, aged 66 and 63, of late M.R.C.S. Have a small income from a house, but at present it all has to be paid away for repairs which were necessary to secure a tenant. Relieved once, £12. Voted £10.
16. L.R.C.P., L.R.C.S.Edin., aged 53. Has been paralysed and nearly blind for the last five years, and is entirely dependent on his wife's earnings by letting lodgings. Five children, aged 18 to 13. Relieved five times, £90. Voted £18.
17. Daughter, aged 67, of late M.R.C.S. Income reduced to a few shillings a week through the failure of the family solicitor, and is now broken down in health. Relieved once, £5. Voted £5.
18. Daughter, aged 58, of L.F.P.S.Glasg. Only income £1 a month from a society, and physically incapable of earning a living. Relieved six times, £70. Voted £10.
19. Widow, aged 64, of L.S.A. Practically dependent on lodgers, and has had three rooms unoccupied for several months. Relieved eleven times, £120. Voted £10.
20. Daughter, aged 61, of late M.R.C.S. Only income a pension of £20 a year; health delicate and sight greatly impaired. Relieved once, £12. Voted £6.
21. Daughter, aged 57, of late L.R.C.P.Edin. Has been in bad health for several years, and requires help for unavoidable expenses consequent upon recent operation. Relieved eight times, £76. Voted £5.
22. Widow, aged 54, of L.R.C.S.Edin. No income, and requires help during convalescence after a severe operation. Relieved twice, £24. Voted £12.
23. Daughter, aged 64, of late L.S.A. Used to support herself by teaching, but lost her pupils during a long illness which preceded her mother's death. Only income a pension of £21 a year. Voted £10.
24. Daughter, aged 74, of late M.R.C.S. Maintained herself for many years as a housekeeper, but is now dependent on an old age pension. Voted £12.
25. Widow, aged 54, of L.F.P.S.Glasg. Slight help from children, and small earnings by letting rooms. A daughter, aged 18, had been seriously ill for the past twelve months. Relieved nine times, £94. Voted £12.
26. Wife, aged 45, of L.R.C.S.I. Husband was obliged to give up eighteen months ago owing to a complete break down in health, but is now sufficiently recovered to make a fresh start and hopes to build up a small practice. Three children, aged 18 to 11, for whose benefit some money is invested on trust. Relieved once, £12. Voted £6.
27. Widow, aged 52, of M.R.C.S. No income; small earnings from crochet and needlework and lives rent free in return for slight services. Two children, just self-supporting. Relieved twelve times, £115. Voted £9.
28. Widow, aged 42, of L.R.C.P.Edin. Has an income of about £1 a week, but having seven children, the youngest only 2½ years old, is unable to supplement it in any way. Relieved once, £12. Voted £12.
29. Widow, aged 56, of L.R.C.P.Edin. Endeavours to maintain herself by taking boarders, but finds great difficulty in obtaining them. No children. Relieved twice, £10. Voted £5.
30. Widow, aged 56, of M.R.C.S. Only income a pension of £26 per annum; children unable to help. Was assisted several times by this fund when a young widow, but has not applied for nineteen years. Voted £10.

Contributions may be sent to the Honorary Treasurer, Dr. Samuel West, 15, Wimpole Street, London, W.

UNDER the will of the late Mr. Edward Beck of Heddon House, Isleworth, University College Hospital becomes entitled to the reversion of a sum of £8,000 left in trust for the testator's brother.

THE twenty-third Congress of Mental Specialists and Neurologists of France and French-speaking countries will be held this year at Le Puy from August 1st to the 6th, under the presidency of Dr. Arnaud. Among the subjects to be discussed are: Disturbances of movement in dementia praecox; anaesthesia in cerebral hemiplegia; the conditions of surgical intervention in insane persons from the therapeutic and medico-legal points of view. The general secretary is Dr. Suttel, 8, Boulevard Gambetta, Le Puy (Haute Loire), to whom all communications should be addressed.

THE fourth International Congress of Hygiene and Health of the Dwelling will be held at Antwerp from August 31st until September 7th. The President is Dr. Victor Desguin, President of the Royal Belgian Society for Public Medicine, and the General Secretary, Walther Van Kuyck, engineer-architect, Antwerp. The congress will comprise four sections—the hygiene of emigrants, colonial hygiene, hygiene of ports and ships, the development of towns from the hygienic point of view. Expropriation on account of insalubrity will be considered as a special question by the congress, the study to be continued by the tenth International Congress on Cheap Dwellings which is to meet at The Hague on September 8th and following days.

OPENING OF THE NEW BUILDINGS OF GUY'S HOSPITAL MEDICAL SCHOOL.

MR. A. J. BALFOUR ON THE ENDOWMENT OF RESEARCH.

A DISTINGUISHED company assembled at Guy's Hospital Medical School on June 3rd, when Mr. A. J. Balfour formally declared open the new buildings described in our last issue.

Lord GOSCHEN, Chairman of the Governors of the hospital, who was supported by the President, Mr. Cosmo Bonsor, presided at the meeting in the Physiological Theatre, and students of the medical school had seats in the gallery. Sir Arbuthnot Lane, whose baronetcy had just been announced, was received with great applause. Mr. Balfour had an enthusiastic reception. Among those present were the President of the Royal College of Physicians, the Regius Professor of Medicine in the University of Cambridge; the Vice-Chancellor, the Principal, the Chairman of Convocation, and the Member for the University of London; the Principal of King's College, the Provost of University College, the Head Master of Westminster School, the Curator of the Museum of the Royal College of Surgeons, the Commandant of the Royal Army Medical College, the Master of the Apothecaries' Company, the High Commissioner for South Africa, Lord Aldenham, Lord Revelstoke, and many members of the staff of Guy's Hospital.

Lord GOSCHEN, in opening the proceedings, said that Mr. Balfour was closely connected with Guy's as a governor and as a disciple of science who had enthusiastically supported the scheme that had resulted in the completion of the new buildings. In fact, a great deal of the success of the enterprise was due to the encouragement and inspiration which Mr. Balfour gave them when he delivered an address at a prizegiving at Guy's in 1898 on the subject of the endowment of research, and made an eloquent appeal in that cause. Lord Goschen also alluded to the interest the late King had displayed in the work of Guy's Hospital Medical School, and said he was glad to note that that interest had been handed down to his son, King George, who had that day given a proof of his feelings towards Guy's by the honour he had conferred upon Mr. Lane, to whom, in the name of all connected with the hospital, he offered hearty congratulations. Lord Goschen mentioned that, although the new buildings had been erected at considerable cost, not one penny had been provided out of the funds of the hospital, and the governors owed a deep debt of gratitude to the medical staff and the friends of the staff who had so generously assisted in the building scheme. The governors realized that a great heritage had been handed down to them by famous men connected with Guy's in the past, and that they had a great trust for the future to provide for the rising generation adequate means of obtaining knowledge fitting them to take their place in the great profession of medicine, which was always moving forward.

MR. BALFOUR'S SPEECH.

Mr. BALFOUR recalled that some fifteen years ago he had the pleasure and honour of speaking in that hall to the predecessors of the present students upon the claims which research had, and must have, upon all who desired to see this country maintain its place among the nations of the world in what was, after all, the greatest of the practical professions. In the fifteen years that had elapsed since then, this great block of buildings, which it would be his privilege to declare open, had been almost entirely constructed. A hundred thousand pounds had been spent upon them, and those responsible for the scheme might be disposed at first to say, "We can now look back upon the work which has been done, congratulate ourselves upon its success, and rest from our labours." That was not the spirit in which he intended to address them. The work had only just begun. The buildings, it was true, were finished, but a sum of money estimated at twice the amount that had been spent on the buildings was required before these could do all they were called upon to do in the interests of medicine, as the science was now, and to make medicine what it would be in the lifetime of many of those present. It was a great task, and one not unworthy of the energy and liberality of this country. Some unacquainted with the movement of modern science might ask why it was that apparatus, buildings, expenditure of all kinds, infinitely in excess of what were necessary even fifty years ago, were necessary in 1913. It was not due merely to the growth of a great urban population; the necessity arose from the inherent progress of science. Looking back fifty years it was found that some of the branches of science, studied then as they were now by those who intended to devote their lives to medicine, had nevertheless an incomparably smaller connexion with medicine than they had now. As the connexion of chemistry, physiology, bacteriology, and other collateral sciences with the science and practice of medicine had become closer, so the apparatus required had greatly increased in cost, and the amount of knowledge required from the teachers, and the specialization of the teachers, had extended, until he sometimes wondered how it was possible for any physician in practice even to keep himself abreast of what was being done by researchers in his own country and in all other countries, which were now engaged in a happy rivalry for the furtherance of knowledge—a rivalry indeed far happier than the rivalry in armaments, but he sometimes thought hardly less expensive. (Laughter.)

To the public a hospital might simply be a place where those who were sick or injured came for healing and relief; that was a very small and narrow view to take of its functions, because, unless a hospital was in addition a place where the doctors of the future were to be trained, its functions would, as it were, die out with the existing generation, and no provision would be made for the carrying on of the great philanthropic duties which for the moment it might perform, but for which it would not train a new generation with increased knowledge and command over Nature to continue to carry them on in the future. It was at least as important that the great hospitals should be made training grounds for the surgeons and physicians of the future as that they should provide surgeons and physicians of the present day with scope for their beneficent enterprise. To carry out this work effectively required three separate kinds of gifts—qualities not necessarily or commonly associated in any single individual. The really successful professor of the healing art must have not merely a knowledge of all that the science of medicine could now teach, but that ready and happy intuition, that power of diagnosis and knowledge of human nature which made a physician a helper as well as a healer to those whom he attended. Next, if the hospital was to be a great school it must have men who could not only do, but men who could explain. Doing and explaining were very different things, and required very different qualities; they were not always associated in the same individual. Further, if the school was to be all it might be, it wanted also men who could investigate, who possessed that kind of originality which enabled them to see and to map out—not indeed the provinces of which they knew nothing; any fool could do that; it was quite easy to explain what it was the world did not know. It was not so easy to point out in what direction the next advance should be made, where progress might be expected, where Nature might be most easily compelled to yield up her secrets. They wanted men who could by the happy inspiration of genius suggest a solution of some long-standing difficulty which might throw a light upon a multitude of apparently separate phenomena and bring them all under one law, and suggest in reference to them one line of successful investigation. That was research. (Applause.) Genius was rare in any country and in any profession; the medical profession could not hope to have a larger share of it than others. All that organization could do was to give to these rarely endowed individuals an opportunity for effectively exercising for the common advantage the gifts God had given them. He was not sure that the present medical organization in this country did not need amendment in that respect. Men must live; they must have a profession; they could not be asked to give up the domestic life or the security of an assured income. Therefore, if the man of research was to devote to research hours which might be profitably given to the practice of his profession, there must be provided positions of security in which he could feel he was not sacrificing—not his own interests, but the interests of those nearest and dearest to him—in the pursuit and

advancing of our knowledge. The system here—like most things in this country—had grown up somewhat at haphazard. The result had been a great system. Nobody acquainted with the work the great hospitals had done, not merely in the day-by-day work of healing the sick and afflicted, but in the work that looked to the future—the work of education, of investigation, of research—would say that the hospitals had fallen short of the great duties they had taken voluntarily upon themselves and for which they had made great sacrifices. Yet so rapid was the movement of modern thought, so various were the qualities now required by the members of any great and scientific practical profession like medicine, so absolutely necessary was it to differentiate more than had been done in the work of teaching and research, that it was impossible now to ask that the whole of the teaching and research should be done by men engaged for more hours than was probably good for their health in the actual trying work of their profession.

I am certain (continued Mr. Balfour) that the public must assist these great hospitals by a form of endowment which will enable them, when they get a man gifted with a genius for research, to keep him and use him. I cannot forbear, though it may be somewhat outside my duties at the present moment, formally to make the appeal to which I have been leading up in the arguments I have laid before you. There are men who have got a quite unique talent for research who probably would not be very great clinical physicians, and who may have a very small power of expounding doctrines to large bodies of students. You must find a place for such men—when you can catch them; there are not many of them. If there is to be a true organization of medical research for the future you must find a place for these; it is to the liberality of the general public that I make the appeal.

The actual suffering of the moment touches all our hearts. Take the most indifferent man through the wards of a hospital, show him what is being done to diminish suffering and restore a man to a happy, fruitful, and effective life, and the most callous are moved, and the most indifferent open their purse-strings. The appeal I am making has no such immediate and natural advantages; I am appealing for the future, and not for the present; in favour of long, academic lives of research, of which the public know nothing, of which, if they knew anything, they could understand nothing, and yet upon which depend the real future of the healing art in this and other countries. Such an appeal is not easy to make; it is apt to fall on indifferent ears, it does not touch the immediate sense of the present, it looks forward through the mists of difficult scientific terms to some unknown future, but the future in this respect is as real as the present. Exercise your imagination but a little and you will see that it should touch you just as much as the immediate pain endured by a man who has broken his leg in the street and is being treated in the hospital here. If only those who have the means will exercise that small effort of imagination which I am endeavouring to elicit I am quite certain that those who are responsible for this great and important institution will find it as easy to collect the £200,000 that has yet to be gathered before what has been done can be continued to the best advantage, as it was to obtain from the public, and from the staff, the £75,000 which has been collected already for the buildings. It is my most agreeable duty to declare them open.

Vote of Thanks.

Dr. HALE WHITE proposed a vote of thanks to Mr. Balfour, whose mind, he said, was in tune with the advance of knowledge and in sympathy with the idea that led to the erection of the buildings. Dr. Hale White briefly traced the association of modern science with medicine and the recognition of this by those responsible in the past for the policy of Guy's Hospital Medical School. He urged that not only in this country but in the Dominions and in India the appeal for the endowment research at Guy's should find a generous response.

Sir ARBUTHNOT LANE, who seconded, remarked that in no country was research worse remunerated than in this; in the United States money was poured out for this purpose.

The resolution was carried with acclamation, and, Mr. BALFOUR having briefly replied, the visitors adjourned for tea in the "Park," the delightful little open space in the midst of Guy's Hospital buildings. The new laboratories, lecture rooms, etc., were also visited, and demonstrations were given of some of the equipment.

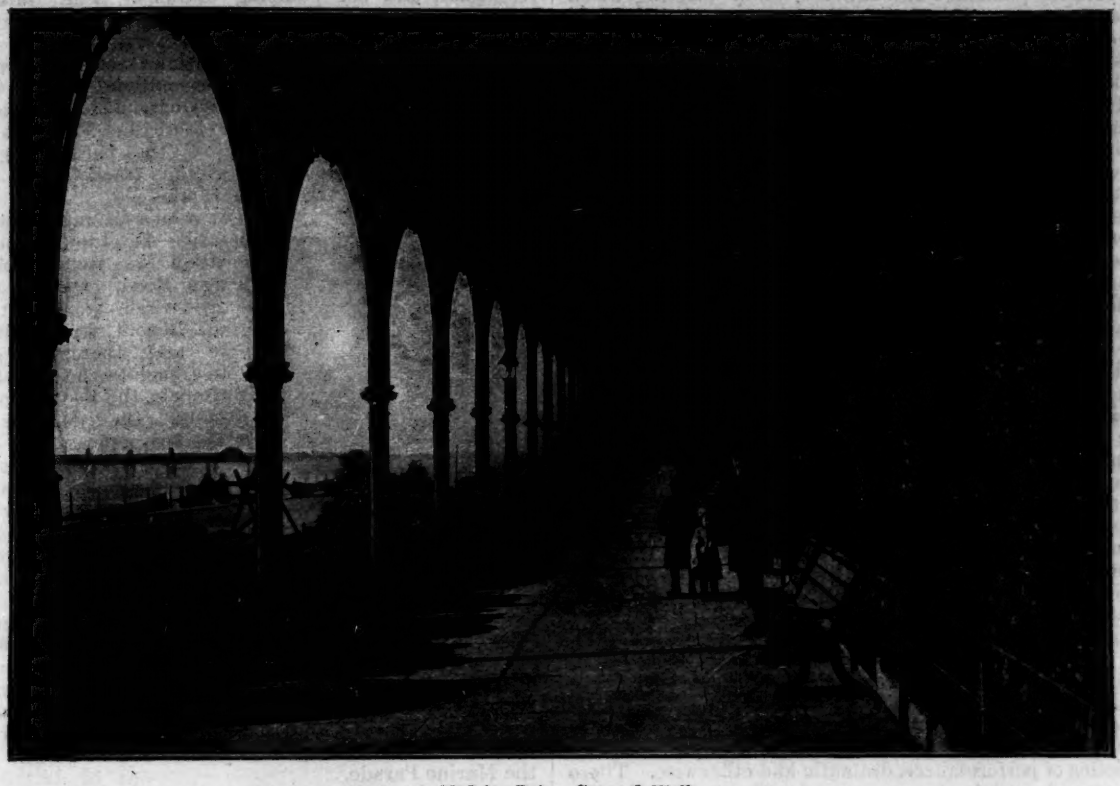
SCIENCE NOTES.

MR. G. E. BULLEN contributed to a recent meeting of the Zoological Society a short paper on cases of blindness in marine fishes. Hofer, de Drouin de Bouville, and others who have studied the pathology of fishes, appear to have directed their attention mainly to species of freshwater habitat. Mr. Bullen has found, in certain specific cases of blindness in marine fishes, pathological conditions similar to those described in several freshwater species and others presenting slight modifications. The examples dealt with in detail were traumatic corneal opacities in a conger eel and corneal opacities in a greater weaver and in a pollack, in the last instance accompanied by cataract.

The theory of the transmutation of elements has been carried a stage further by the paper read by Sir William Ramsay before the Chemical Society of Rome on June 2nd. He then stated that he had experimental evidence indicating that eight and four atoms of hydrogen respectively had been added to sulphur and selenium, with the result that argon and krypton made their appearance. A report of the portion of the lecture dealing with these points appeared in the *Morning Post* on Tuesday. As regards the experiment with sulphur, a control experiment, in which helium took the place of hydrogen, was made with negative results. Spontaneous changes which take place in radium and its products are attended by successive losses of helium atoms, and it is believed that the substance eventually remaining is lead. The recent suggestion of Ramsay, Collie, and Patterson is that the reverse process may also take place with the production of elements of higher atomic weight. The two observers last named maintained in their communication to the Chemical Society (noted in the JOURNAL last February) that on bombarding glass with cathode rays in the presence of hydrogen helium was produced, and that if oxygen was present neon appeared. All the chemists concerned make abundant reservations as to the necessity for the repetition of the experiments, but if the accuracy of Sir William Ramsay's experiments is accepted we have four similar reactions, two due to Collie and Patterson, and two due to Ramsay. In each of the four a single condition is altered, and the conclusion suggested is that transmutation has occurred. Sir William Ramsay believes that under the conditions of his experiment dry hydrogen is polymeresed into helium, a change which may be expressed thus: 4 Hydrogen = Helium the atomic weight of which is 4. He would then go on with the following series: 4 Hydrogen + Oxygen (16) = Neon (20): 8 Hydrogen + Sulphur (32) = Argon (40): 4 Hydrogen + Selenium (79) = Krypton (83). The theory is made possible if not plausible by recent work on the constitution of the atom and on radio-active substances, and it certainly satisfies one of the conditions of a useful hypothesis, for it should suggest a fruitful line of research.

THE Royal Academy of Medicine of Turin has awarded the Riberi Prize of £800 to Professor Luigi Pagliani for his treatise on hygiene and public health. The thirteenth competition for the prize is now open, and will remain so to December 31st, 1916. For particulars application should be made to the Secretariat of the Academy, 18, Via Po, Turin.

THE French legislature has before it two bills regulating the sale of narcotics. M. Felix Chautemps, Deputy for the Haute-Savoie, proposes to forbid the sale, circulation, and smoking of opium in France and the French colonies, and also the sale, circulation, and use without a medical prescription of morphine, cocaine, and all analogous substances. A bill introduced by M. Charles Lebocuq, Deputy for the Seine, provides for the prevention of the sale or keeping in stock or unauthorized transport of cocaine, opium, and its alkaloids, the dispensing of prescriptions except in cases of therapeutic necessity, and the establishment of places or the loan of rooms for the purposes of smoking opium.



Madeira Drive, Covered Walk.

The Annual Meeting of the British Medical Association

Brighton, July 18th to 26th.

THE Association will hold its Eighty-first Annual Meeting at the popular seaside resort of Brighton, in Sussex. The annual conference has been held in this town on two previous occasions—for the first time in 1851, and for the second in 1886, twenty-seven years ago.

A few words of this meeting of over a quarter of a century past, and some comparison of names, facts, and figures with the present, will perhaps be of interest.

In 1851 the membership of the Association was only 1,700; in 1886 the members numbered 12,000; at the present time there are over 26,000 members. There was then, of course, no Brighton Division; now it is one of the most prosperous and flourishing of the whole Association.

Dr. W. Withers Moore, Senior Physician to the Sussex County Hospital, was President on the occasion of the Fifty-fourth Annual Meeting at Brighton (1886). On looking through the account of the meeting many items of interest are discovered. There were only eight Sections, compared with sixteen to-day. In the Surgical Section Mr. Willoughby Furner acted as Secretary; this year his name is found as Vice-President of the same Section. Mr. Jowers was a Vice-President; this year his son occupies the same position. In the Pathological Section Dr. Uhthoff acted as Secretary; at the present meeting he is Vice-President of the Pharmacology Section. Mr. A. Nicholson was Secretary of the Section of Ophthalmology; at this meeting he is a Vice-President of the same Section. So that only three officers of Sections of the 1886 meeting are in this year's list.

The titles of some of the addresses make interesting reading. Dr. Withers Moore selected as his subject The Higher Education of Women, and the views he expressed excited a prolonged controversy in the public press. The Address in Medicine was delivered by Dr. John S. Billings of the United States Army, whose death we have had so recently to lament. His subject was Medicine in the United States and its Relation to Co-operative Investigation. The Address in Surgery, delivered by Mr. F. A. Humphry of the Sussex County Hospital, was on The Medical Aspect of Surgery. Many papers by men whose names are now historical were read—for example, Sir William Broadbent spoke on Remote Effects of Remedies, Sir John Eric Erichsen on The Tendency of Modern Surgery. Other papers were read by Sir Lauder Brunton, Sir Thomas Clouston, the late Professor Dreschfeld of Manchester, and many others who have since risen to the first eminence in our profession.

The Honorary Secretaries of the meeting in 1886 were Mr. T. Jenner Verrall, now Chairman of the Representative meeting, and Mr. Alfred Scott, still practising in the town.

The various functions held on that occasion were very similar to those to be held in the present year. The annual dinner was held in the Dome instead of the Hove Town Hall, not then built. A garden party was given by Sir Julian Goldsmid, M.P., in the grounds of St. Ann's Well, then his private property. The Mayor of Hove is this year giving a garden party on the same spot, now the property of the town. The Mayor of Brighton, as on the present occasion, gave a reception in the Pavilion, the local Branch also held an evening reception. Excursions were arranged to Eastbourne, Tunbridge Wells, Arundel, and other places, all of which are to be visited this summer.

From the published accounts the whole meeting was a great success, and there is every reason to believe that the annual meeting on the present occasion will be at least as profitable and enjoyable to those who determine to make Brighton their Mecca this July.

The town of Brighton is situated on the English Channel, fifty miles from London, on the coast of Sussex, facing almost directly south. The population, including Hove, is 173,000. The railway service is excellent, plenty of trains doing the journey from London either way in exactly the hour. There are also good connexions with other lines. The L.N.W.R. runs a through train daily from Liverpool, Manchester, Stockport, Birmingham, Crewe, Stafford, and Rugby, and vice versa, and there are also through trains to Salisbury, Exeter, etc., via the L.S.W.R.; to the East Kent Coast (Margate, Ramsgate, Dover, Folkestone, etc.) by the S.E.and C.R. There is a regular service of steamers from Newhaven, a few miles from Brighton, to Dieppe, which renders it easy for visitors from all parts of the Continent to make a stay in the town. Facilities are offered for amusements of every description. The municipal orchestra is a great attraction, and military bands constantly perform on the piers, two in number, both of which cater for the entertainment of the public by all varieties of performances, dramatic and otherwise. There are several good theatres, notably the Theatre Royal, with a weekly change of programme, and in addition flying matinées by first class London companies. Concerts, ballad and classical, are very frequently arranged at the various halls.

North Entrance to Pavilion, showing Exhibition Building.

There are numerous opportunities for bathing, boating, steamer trips, motor boat trips, and coach, motor, and char-a-banc excursions to places of interest in the neighbourhood. Golf links are plentiful; tennis, croquet, football, and cricket are catered for in various parts of the town. On the Sussex County Cricket Ground in Hove the finest English teams hold their matches, and the Australians are frequent visitors. Archery, roller skating, racing, cinematograph theatres must all be mentioned; in fact, there is no end and no limit to the forms of amusement which the visitor to the town can procure.

The Pavilion. Reception Room: Mayor's Reception.

Some of the principal municipal buildings must be mentioned. The celebrated Aquarium, opened forty years ago, was purchased by the Corporation in 1901. It contains the finest piscatorial collection in the world, as well as a large collection of marine shells. Organ recitals and concerts by the municipal orchestra are given frequently.

The electric lighting works at Southwick are very fine, and capable of supplying the whole town with electricity. The waterworks provide one of the purest and best waters in the world. The department owns 1,400 acres, eighteen reservoirs, and six pumping stations. The water is entirely underground, never seeing daylight from the time of its absorption by the chalk to its exit at the tap.

The public parks are numerous and well kept, Preston Park, 66 acres in extent, being especially noticeable. Here are courts for lawn tennis and bowls. Polo matches are held, as well as cricket and football. Facilities are given for riding, one side of the park being set aside for equestrians, the riding track being continued right on to the South Downs.

It would be impossible to describe Brighton without a mention of its celebrated King's Road. One side are shops which would not disgrace Regent Street, divided here and there by great hotels, such as the Grand, the Metropole, the Bedford, or the Norfolk. On the other side is the sea, approached by a shelving beach, with its two projecting piers. The whole of the road has recently been relaid with tarmac, the opening ceremony being performed by Sir George Gibb, Chairman of the Road Board.

To the east of the Aquarium, on the Madeira Drive, is the fine covered walk, of over half a mile in length, sheltered from the worst weather, and decorated with euonymus. The walk is divided from the roadway by shrubs and a lawn. Above is another promenade not covered in, and beyond that a fine broad road, the Marine Parade.

The Royal Pavilion, which will be occupied by the Association for its Annual Meeting, was built by George IV when Prince of Wales, and used by him and some of his successors as a seaside home. The decorations of the chief rooms have been renewed, and the building is now used for concerts, plays, and meetings. In the Pavilion an interesting collection of prints, etc., is kept, illustrating Brighton in its many aspects. The Dome, which adjoins the Pavilion, formerly the royal riding school, is now used for large public gatherings. It is a fine building, capable of holding about 2,500 people.

Historical.

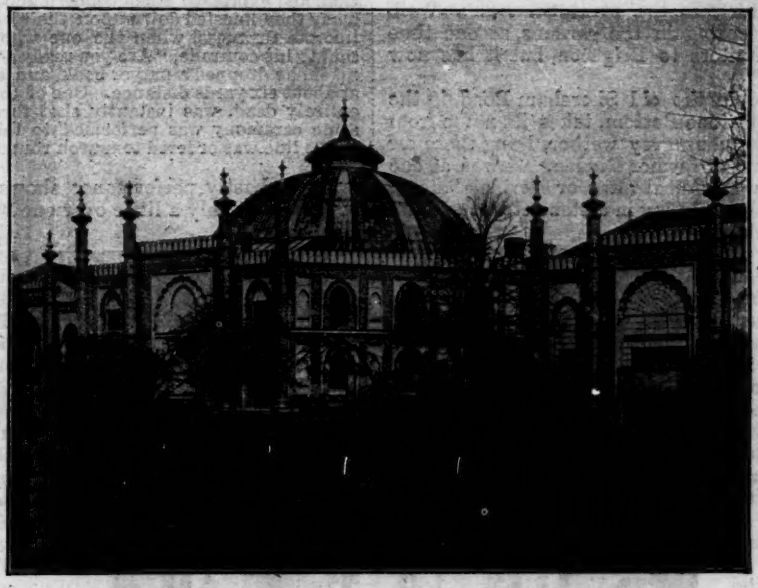
Before the Norman conquest Brighthelmstone, as the name was then spelt, came into possession of the family of Earl Godwin, and passed into the hands of his son Harold, who was defeated and slain by William the Conqueror at Hastings. The lordship of the manor was then presented by William I to William de Warrenne, afterwards Earl of Surrey. The rent paid, according to Domesday Book, was 4,000 herrings.

In the sixteenth century the town was burnt by the French, an interesting picture of which event is shown in the Public Library.

When Charles II escaped from this country after the battle of Worcester, he embarked at Shoreham, having spent the previous night at an inn (no longer in existence) in Middle Street. He was helped in his escape by Captain Tettersell, who was subsequently granted a pension of

£100 a year, and was buried at his death in the churchyard of the old parish church of St. Nicholas.

It was at the beginning of the eighteenth century that Brighton commenced to rise to fame. Dr. Russell, who was born at Lewes in 1687, settled in practice in Brighton, and, after a long study of his subject, issued his celebrated work, *On the Use of Sea Water in the Diseases of the Glands*. He recommended his patients to drink sea-water as well as bathe in it. A short account of his views, for which we are indebted to Dr. Gervis, an ex-mayor of Brighton, will be of interest. According to him the internal use of sea-water should precede its external application, for he says, "Many persons are apt to hurry into a course of bathing before the body is altered and sufficiently prepared by drinking sea-water or by a previous course of other remedies, which hurry is always detrimental to the patient by protracting his cure." It would be quite erroneous to regard Russell as a mere crank, for in many ways he was in advance of his time. He recognized the value of open air in the treatment of consumption, and distinguished between those cases that required absolute rest and those which would be benefited by exercise. For the latter he recommended riding on the Downs. In the case of delicate children he insisted on the importance of keeping the nursery windows open, or not dressing the children too warmly, and on avoiding the use of opiates. In fact, his advice might be that of the most up-to-date county council health visitor.



The Dome Assembly Hall. President's Address; Dr. Spitta's Lecture.

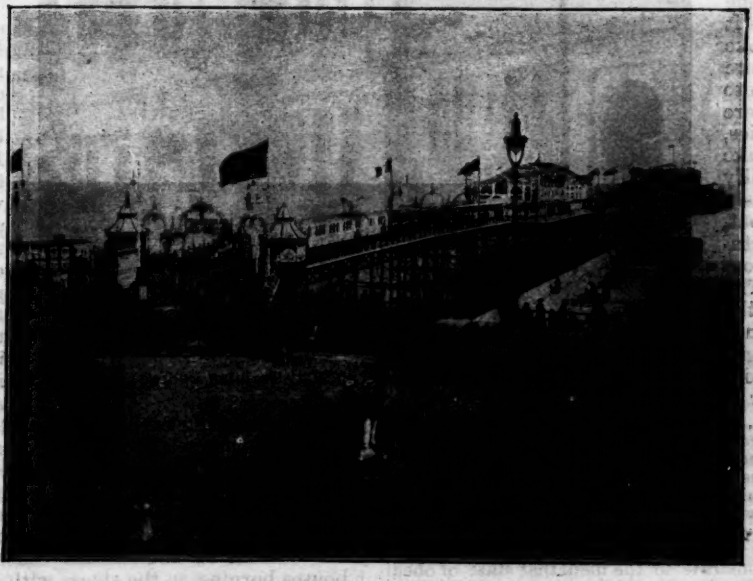
It is possible that Dr. Russell's sage advice was even more efficacious than the pint of sea-water he made his patients drink daily; at any rate, his treatment had a tremendous vogue, and invalids deserted Bath and other inland health resorts and flocked to Brighton to be cured of all their ills by the novel method of bathing in the sea and drinking sea-water.

It is difficult nowadays, when the custom of spending holidays by the seaside is so widespread and everybody bathes in the sea as a matter of course, to realize how great a revolution Dr. Russell inaugurated. The tendency to regard sea-bathing as a medicinal process lasted long after Russell's time, even down to the middle of the nineteenth century. Dr. Russell, who did so much to raise Brighton to fame, died in 1759, aged 72, and the Rev. Dr. Mannington, of Levington, enshrined his memory in the following epitaph:

> Clara per omne aevum Russelli fama manebit
> Dum selinet vires unda marina suas.

It was during the time of the Regency and of George IV that the zenith of Brighton's popularity was reached. As already mentioned he, as Prince of Wales, built the Pavilion as a royal marine residence, at an enormous cost, with riding schools and stables connected with the Pavilion by an underground passage. The orgies which occurred in this residence during his occupancy are historical, and no credit to him or his satellites. After his death it was used by William IV as a seaside house, and Queen Victoria resided there several times during her brief visits to the town.

In 1850 the building was purchased by the town for £30,000. The old riding school is now the Corn Exchange—where the Annual Exhibition of the Association is to be held; the stables have been converted into the Dome, where Dr. Hollis will deliver his Presidential address. The Pavilion remains much in its original state, and is to be used for the purpose of the Annual Meeting, the reception, reading, writing, and other rooms being situated here.



The Palace Pier.

In the Old Steyne is the house of Mrs. Fitzherbert, wife of George IV; her tomb is situated in the Catholic Church of St. John the Baptist in Bristol Road, where the Catholic service of the Association is to be held.

Some reference to the sister-town of Hove must be made. This borough, though only separated from Brighton by a purely artificial boundary, has a corporation of its own, and manages its own affairs entirely.

The town has been well planned with wide, open streets, roads, and avenues. The sea wall, erected at a total cost of about £70,000, under the supervision of Sir John Coode, is one of the finest in England, extending almost to Aldrington.

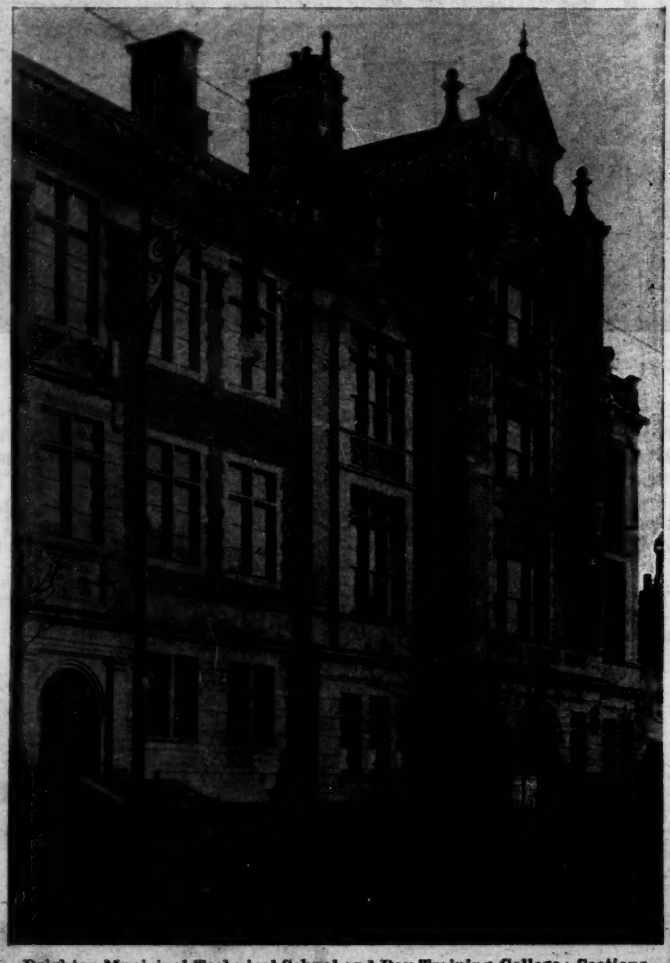
The most imposing building in the town is its Town Hall. It was erected in 1882 at a cost of £50,000. The central hall has a good organ, and is capable of holding about 2,000 people. The central tower has a fine carillon of twelve bells, which play throughout the day every three hours.

Hove was a favourite resort of the late King Edward, who frequently stayed at the house of Mr. Reuben Sassoon at 8, Queen's Gardens. It was here he had an historic interview with the Prime Minister, Mr. Asquith, in reference to the steps to be taken to secure the passage of the Parliament Bill into law.

There are many parks and open spaces in Hove, the most beautiful of which is the rural St. Ann's Well. There is a chalybeate spring in the gardens, at one time much resorted to by visitors to Brighton, but it has now fallen into disuse.

Hove Park, situated in the old Shoreham Road, in the district known as Goldstone Bottom, takes its name from the Goldstone, an enormous grey wether, lying there for many years on the land of farmer Rigden. It was at one time supposed to be a Druidical altar or sacrificial stone, and it is said that it formerly lay in a stone circle. In the early portion of the nineteenth century it attracted the attention of archæologists so frequently, that the owner, finding it a nuisance, dug a hole and buried it; and there it remained till 1902, when, after much searching, it was found and dug up, and remains in Hove Park, weighing 20 tons, and measuring 10 ft. by 14 ft. by 5 ft. at the thickest part.

This park, now the happy hunting ground of children and nursemaids, and one of the prettiest spots for the residents and visitors at Brighton to explore, was once the scene of a tragedy so terrible and sombre that it is difficult to imagine that it is only a little over one hundred years since it happened. A riot broke out in the Oxfordshire Regiment, and those who took part in it were tried by the authorities, who determined to make an example of the guilty ones. Various punishments were dealt out, and two of the unfortunate men were condemned to be shot. The following account of the execution of the sentence is taken, with slight alteration, from a contemporary newspaper:



Brighton Municipal Technical School and Day Training College: Sections.

On Friday, June 14th, 1795, at 11 o'clock at night, the Oxfordshire Regiment marched from Seaford in order to attend the execution of the two men who were condemned by a general court-martial for riotous and disorderly conduct. The hour of four was the time appointed to assemble. On the march the regiment halted, and twelve men who had taken part in the riot were called out, when the commanding officer ordered them to fix their flints and prepare to execute the sentence. This was done to demonstrate to the men that state of obedience in which the officers were determined to hold them, and by this measure they felt more pointedly the folly of their former conduct, when those persons, whom they had before made their leaders, were now to suffer death at their hands.

The regiment was then conducted to a spacious valley, now part of the New Park at Hove, and divided into two wings, which were stationed on each side of the place of execution. They were then followed by the whole line of encampment. On the rising ground above the valley three thousand cavalry were posted. They were followed by all the horse artillery. The guns were pointed and matches lighted. From the disposition of the ground and the arrangement of the troops a more magnificent and a more awful spectacle was never exhibited in this country.

After the corporal punishments had been inflicted on the prisoners of less note, Cooke and Parish, the two unfortunate men condemned to die, were brought forward with a very strong escort. They walked along the vale in slow and solemn procession, accompanied by the clergyman who had devoted his time so conscientiously to them from the moment the sentence was made known that they were fully prepared to meet their fate. They approached the fatal spot with resignation, and expressed much concern and penitence for the crime. They then kneeled down upon their coffins with cool and deliberate firmness, when the one who was to drop the signal said to his comrade, "Are you ready?" Upon the reply being made, he dropped a prayer book, and the party did their duty at about six yards distance. One of them, not appearing to be entirely dead, was instantly shot through the head, and the same ceremony was performed to the other. After this the whole line was ordered to march round the dead bodies.

This ghastly performance shows the callous brutality of the time—only a little over one hundred years ago. On the same day at Lewes two of the Oxford Militia were hung for stealing flour at Blatchington. They appeared very penitent, and desired the spectators to take warning by their untimely fate, and not to mix with any mob, as they themselves were insensible of the consequences at the time of committing the offence for which they suffered. The troops of the yeomanry cavalry raised in Sussex attended the execution.

The new parish church is a very fine building, or rather will be when completed by the erection of the tower. It is the largest parish church in Sussex.

The origin of the name of the borough is not quite clear. In the Domesday Book it is recorded that the Earl of Godwin held the borough wick of How before the Conquest. In the thirteenth century the manor of Hove was held by the Pierpoint family, now extinct, but with the record of their name in Hurstpierpoint, a village a few miles out. At this time the sea had begun its inroads, which ended in in the destruction of Aldrington.

An interesting event in the history of the town is the march of the men of Hove to the assistance of the men of Brighton. It was in 1545, when Francis I, King of France, invaded England and made his attack on the south coast. On July 18th Admiral Claude d'Annelant with 200 ships and 26 galleys of the French navy made his descent on the Sussex coast. An old print shows houses burning on the shore, with the town beacon alight, and the men of Aldrington and Hove marching to the assistance of their neighbour.

Hove only began to develop into importance at the time of the Regency, and since then has rapidly advanced to a fine attractive town.

The Annual Representative Meeting.

The Annual Representative Meeting will be held on Friday, July 18th, and subsequent days in the Hove Town Hall, situated in Church Road, in the centre of the town of Hove, and easily reached by motor bus from Brighton. Ample accommodation is obtainable in the

Lent by Messrs. Emery] Hove Town Hall: Annual Representative Meeting. *[Church Road, Hove.*

building to accommodate comfortably all the Representatives. The Mayor of Hove (Alderman Barnett Marks) will, on the opening day, welcome the meeting to Hove. It has been arranged on this occasion to make a presentation to the Representative Meeting by the local Division of a set of minute glasses mounted in silver. The work has been executed by the Goldsmiths' Company, of Regent Street, and makes a very handsome ornament. It will be a welcome addition to the regalia of the Association. A refreshment room will be opened on the premises, where lunch and tea can be obtained at a reasonable price.

Although the controversy over the Insurance Act has become less acute, there are many important and debatable subjects (including such questions as increased subscription for membership, the advisability of the Association becoming a trade union, the payment of expenses of Representatives, and the reorganization of Branch and Divisional areas in the United Kingdom, the proposed decrease in the size of the JOURNAL, etc.) still to be discussed at the Representative Meeting—subjects which will tax the powers and patience of the able Chairman (Mr. T. Jenner Verrall), whose name is so well known in Brighton, with which he was so intimately connected in the past. The provisional agenda of the meeting was published in the SUPPLEMENT of the JOURNAL on May 10th.

THE PRESIDENTIAL ADDRESS.

The head quarters of the Association are at the Pavilion, and the reception-room will be open early on Monday, July 21st, for the issue of members' tickets, *Daily Journal*, guide-books, catalogues, etc.

The annual address of the President will be delivered on Tuesday, July 22nd, by Dr. W. Ainslie Hollis, Consulting Physician to the Royal Sussex County Hospital, who has selected as his subject the medical history of Brighton. The oration will be delivered in the Dome. This function is always a picturesque one, and there is every reason to believe that this occasion will be no exception. Many distinguished visitors, both lay and medical, are expected, and as academic costume will be worn the display of colours of the gowns and hoods of the various universities, combined with the gay dresses of the ladies, will make a brilliant spectacle.

The Mayor of Brighton, Alderman Thomas Stanford, will open the proceedings by welcoming the Association to Brighton. The Mayor is intimately connected with the medical profession and it is an open secret that he only consented to the urgent wish of his colleagues to retain office for a third time on account of the visit of the British Medical Association to Brighton this year.

It has been decided on this occasion to present to the President, Dr. W. A. Hollis, a replica of the presidential badge of office, from the local Division, as a token of the esteem in which he is held by his colleagues in the town. To this ceremony the Mayors and Corporations of Brighton and Hove and many distinguished people are to be invited, so that a very large meeting is expected, but the seating accommodation at the Dome is very large and room will be found for all.

THE ADDRESSES IN MEDICINE AND SURGERY.

These addresses will be delivered in the Music Room of the Pavilion on Wednesday and Thursday at 12.30 p.m., that in Medicine by Professor George R. Murray, physician to the Royal Infirmary, Manchester; that in Surgery by Sir Berkeley Moynihan, Surgeon to Leeds General Infirmary.

THE SECTIONS.

The sections, sixteen in number, will all hold their meetings in two adjacent buildings, the Municipal Technical College and the Municipal Training School, kindly placed at the disposal of the Association by the Brighton Education Committee. These are easily reached from the Pavilion by tram in two minutes or by walking in five. Here there are plenty of large and well-arranged rooms, which will afford ample accommodation not only for the whole of the Sections but also for the Pathological Museum. The preliminary programme of the Sections was published in the SUPPLEMENT of May 17th, and reference need only be made here to a few of the discussions. Thus, in the Section of Climatology and Balneology, Dr. W. J. Tyson is to open a discussion on Sea Bathing, and Dr. Neville Wood will speak on The International Aspect of British Health Resorts. In the Ophthalmological Section an important discussion on School Clinics and the Prevention of Myopia will take place; and in the Section of Diseases of Children Professor Foerster of Breslau

will read a paper on Posterior Root section in the Treatment of Spastic Paralysis. In the Section of Laryngology, Rhinology, and Otology a discussion on a most important subject, the Care of Patients after Operations on the Nose and Naso-pharynx, will be held. In the Pharmacological Section Dr. Willcox will open a discussion on the Use and Abuse of Hypnotics. In the Section of Medical Sociology, at which a large number of non-medical members are expected to attend, many important discussions which will appeal to the intelligent public have been arranged. A debate on Crime and Punishment, in which Dr. Charles Mercier, Sir Bryan Donkin, and Dr. James Scott will take part, is one of the items; the Consideration of Eugenics is another; and the subject of Hospitals in Relation to the State, the Public, and the Medical Profession is sure to provoke animated argument. In this latter discussion Mr. Masterman, Under Secretary to the Treasury, will join, and the Chancellor of the Exchequer, the Right. Hon. D. Lloyd George, has been asked to contribute his views; he has intimated that he is unable to make a definite engagement so far ahead, but the local profession sincerely hopes he may be able to be present.

It will be seen from the above brief reference that the scientific proceedings have been arranged to include many subjects of interest and importance to every member of the profession, no matter what particular branch he may be engaged in, and the names of the officers and of those who have promised to take part in the discussions or read papers should vouch for the excellence of the material to be supplied.

The Pathological Museum.

This is being well organized by Dr. Galt of the County Hospital and his colleagues. Specimens are being collected from all over the country to illustrate the subjects treated of in the papers and discussions of the various Sections. In addition special branches of pathology are being taken up and illustrated, especially those relating to any recent research work. It is hoped also to have on view, with demonstration, the most recent instruments relating to clinical diagnosis and pathological investigation, such as the epidiascope. A good collection of microscopic exhibits has also been arranged for in a special room adjoining that in which the Pathological Section meets.

Church Services.

It has been decided that a service shall be held at the parish church of St. Peter's, Brighton, on the afternoon of Wednesday, July 23rd. The members will assemble and robe at the Pavilion; they will then march in procession, preceded by the Corporations of Brighton and Hove and their officials, through the gardens to the church. Canon Hoskyns, the vicar, will conduct the service; it is hoped that the Bishop of Truro, whose brother Dr. Ryle is a well-known practitioner in Brighton, will preach the sermon, and a leading member of the Association will read the lesson. Arrangements for hiring the robes, on this and other occasions, have been made with various firms, so that no difficulty will be encountered in the wearing of academic costume.

On the morning of Wednesday, at 9 a.m., a Roman Catholic service (short mass) will be held at the church of St. John Baptist, Bristol Road, Brighton. This church is situated within a few minutes of the Pavilion by motor bus. Canon Monsignor Johnston, D.D., will conduct the service, and afterwards will be pleased to show visitors round the church, which contains, among other objects of interest, the tomb of Mrs. Fitzherbert, wife of George IV.

Annual Dinner.

The annual dinner will be held at the Hove Town Hall on the night of Thursday the 24th. The number of tickets has, on account of seating accommodation, been limited to 400; and, as it is expected that there will be a great demand for these, early application should be made. Some very distinguished visitors are expected, and a successful function is with confidence anticipated. The after-dinner speeches will be few and short.

Popular Lecture.

A popular lecture entitled Some Wonders of Animal and Plant Life in Pond and Pool will be delivered in the Dome on the evening of Friday, July 25th, by Dr Spitta, and will be illustrated by a cinematograph; 2,500 tickets are to be issued, and they will be distributed mainly to working men, school teachers, and elder scholars, and the public generally. Dr. Spitta is so well known as a clever and capable lecturer, that there is sure to be a very large demand for admission. Captain Tryon, one of the borough members, will take the chair, and Mr. Percy Taylor will preside at the organ.

Annual Exhibition.

The annual exhibition of foods, drugs, books, and instruments, has been arranged in the Corn Exchange, a spacious building adjoining the Dome. It is hoped, in spite of the competition of the International Medical Congress to be held in August in London, that this will prove as useful and attractive as it has in the last few years. A unique opportunity is here presented to the members of the profession actually to inspect the latest productions in elegant pharmacy, the most recently published medical works, and the most modern surgical instruments. It has been decided to keep this exhibition open during the Mayor's evening reception, to be held in the adjoining buildings, the Dome and Pavilion, on the night of Wednesday, July 23rd.

Mayoral Reception and other Entertainments.

Many evening functions have been arranged. The Mayor of Brighton is issuing invitations for a concert and ball to be held in the Pavilion and Dome on Wednesday evening. These buildings essentially lend themselves to an entertainment of this nature. The handsome suite of rooms with their quaint ornamentation are specially suitable for a state reception, and no more appropriate place could have been selected than the old dwelling place of George IV. The municipal orchestra which will perform on this evening, under the direction of Mr. Lyell-Taylor, is justly celebrated for its performances, and will be heard to advantage in the Dome.

On Thursday night, the evening of the annual dinner, an entertainment is being arranged for the ladies and those members who are unable to be present at the dinner. It is not quite settled what form this will take, but probably one of the theatres in the town will be reserved for them.

On Friday the local Division is giving a soirée in the Hove Town Hall, and this should be a great success. A large number of invitations will be issued to prominent residents in the two towns to meet the members of the Association.

On the afternoon of Thursday, July 24th, the Mayor of Hove, Alderman Barnett Marks, will entertain the Association at a garden party in the grounds of St. Ann's Well Gardens. This park is without exception the most beautiful in either town. The picturesque paths, winding up and down hill, in the well-wooded grounds, are perfect on a fine summer's day, and no more suitable spot could have been selected by His Worship to entertain his guests.

Ladies' Entertainments.

A ladies' committee, presided over by Mrs. W. Ainslie Hollis, wife of the President, has been formed to look after the interests of the lady visitors, and they are endeavouring to provide amusements for them during the time their husbands are engaged at the Sections. Croquet, tennis, golf, etc., are all being arranged, and it is proposed to have a ladies' golf competition, the local Division presenting a cup to the winner. Visits to various places easy of access will be made, motor rides round the district will be taken, and so on. Nothing is being left undone by the Committee to ensure the comfort of their lady guests. Some members will be in constant attendance at the ladies' room in the Pavilion to assist the visitors in every way, and to provide them with afternoon tea.

Excursions.

Plenty of excursions to places of interest in the neighbourhood have been arranged for Friday and Saturday July 25th and 26th. The Mayor of Eastbourne, in conjunction with the Eastbourne Division of the British Medical Association, has invited a party to visit that town. A special train will be provided, and after the arrival of the visitors, they will be entertained at lunch at the Town Hall; they will then drive round the neighbourhood, have tea on the pier, be entertained at dinner, and finish up

with a concert and firework display in Devonshire Park, returning to Brighton by another special train.

The Mayor of Lewes, Dr. Hugh Stott, has arranged for a visit to Lewes, the county town of Sussex, and one of the most picturesque. This old town is full of historic interest. The racecourse lies on the hill where Henry III was defeated by Simon de Montfort in 1264. In Southern High Street there is still in existence the old house where Anne of Cleves lived after being divorced by Henry VIII. Other noted inhabitants were Sir Thomas Browne, author of *Religio Medici*, and Sir Nicholas Pelham, who in 1545 defeated a French force which landed at Seaford. The old castle, with its interesting archaeological collection, is worth a visit, and also the church with its Norman round tower. In Queen Mary's time sixteen martyrs were burnt at the stake after being imprisoned in a cellar under the old Star Inn. A monument was erected a few years ago on Cliffe Hill to their memory. After visiting these places of interest the party will be entertained at tea by Mr. and Mrs. Frankfort Moore in their beautiful home.

At Arundel the Duke of Norfolk has thrown open his magnificent seat, Arundel Castle, which dates from the sixteenth century, but which has standing in its grounds, on a lofty mound, an ancient Norman keep. Adjoining the castle is the parish church. This church is probably the only church in England devoted to two distinct religions, being divided by a brick wall between the chancel and the tower into a Roman Catholic and a Protestant portion. In the former the lady chapel contains the tombs of the Earls of Fitzalan and some interesting brasses. There is also in the town a second fine Catholic church, dedicated to St. Philip Neri. The Duke of Norfolk will entertain his visitors to tea after they have visited the town and castle, and will be assisted in every way possible by the Mayor of the town.

At Chichester Messrs. Shipham, of potted meat fame, will entertain a party. Here there are many buildings of great interest. The cathedral shows varied styles of architecture and presents one unique feature, the only example in this country, and that is a bell tower standing apart from the cathedral. The Gothic market cross, of fifteenth century date, stands in the centre of the town. St. Mary's Hospital, an old almshouse, the chapel of which was built in the fourteenth century, and contains some fine carving, is a most interesting building. Here, in little suites of rooms, each one self-contained, live old men and women elected to the charity, in comfort and respectability. The late King Edward frequently visited here during his trips to Goodwood, and showed his interest in the old people by many kindly acts.

At Tunbridge Wells the local Division has arranged to entertain a detachment of the conference at lunch, then to drive them to Penshurst, a fine mediaeval mansion, the seat of Lord De L'Isle and Dudley. Afterwards the visitors will be received by the Mayor of the town, who will provide them with tea.

At Shoreham, Lancing College, with its fine chapel, and Bungalow Town will be visited, the doctors in the neighbourhood having made themselves responsible for the entertainment of a party. Tea will be provided at the College, and it is hoped that some exhibitions of flying will be arranged at the Shoreham Aërodrome, one of the best on the South Coast. The town boasts of two old churches, and possesses a very quaint little Sussex harbour.

At Worthing parties, after partaking of lunch as the guests of the Worthing Division, will be taken to view the celebrated glass houses where the fruit-growing industry of the neighbourhood is carried on. Some will proceed to Bignor, where there is a fine specimen of Roman pavement; others to Cissbury, with its prehistoric remains, and Sompting, with its old church and Saxon Tower.

At Portsmouth the local Division has invited a number of members to lunch and to view the well-known dockyards. Visits to battleships are also being arranged for.

A sea excursion will proceed to Boulogne, where, after viewing the lovely cathedral and the ancient town walls and the statue to Jenner (by the irony of fate the only one in the world) the Mayor of Boulogne will receive his English visitors to tea.

This list, not yet complete, will show that the members of the Association who come to Brighton, will have ample choice of places to visit after the business work of the meeting is completed.

Interesting Places in and near Brighton.

Brighton is not a town with many industries of importance, but there are, of course, various businesses and manufactories, many of which are to be thrown open to members for inspection. Clark's Bread Factory, where the latest machinery for the making of bread without the intervention of the hands has been installed, will attract many visitors. Cox's Pill Manufactory and the Reason Electrical Works will also present many features of interest for those who go over them. Visits are being arranged to the works of the Sewers Board, with the main outfall at Rottingdean. This little village, situated about five miles from Brighton, with which it is connected by a good service of motor buses, is a popular resort, and many celebrities have lived here—for example, Sir Edward Burne-Jones, who designed the beautiful windows in the picturesque parish church, Mr. Rudyard Kipling, and William Black of literary fame, and now Sir Edward Carson, the Ulster leader.

The Corporation Electricity Works at Southwick, at the mouth of the Adur, the Brighton Railway Works, the waterworks, the special schools of the Brighton Education Committee—for example, the Mentally Defective School, the Home Training School, the Coombe Road School, built on the latest pattern and one of the best in England—are all to be open to members.

Many other places of interest, such as Captain Frazer's French garden situated on the London Road, about two miles out of Brighton, which attracted the great interest of his late Majesty King Edward VII, the Hove Bungalows, a group of cement houses, built right on the beach at Aldrington, with balconies eminently suitable for open-air treatment, will fill in spare hours.

The Sussex Art Club has decided to hold its annual exhibition during the conference week, and the exhibition of the School of Arts students' work will also be on view.

Garden parties, in addition to that of the Mayor of Hove already referred to, will be given at Roedean School, by the Misses Lawrence. This school is one of the finest girls' schools in England, standing in large grounds right on the cliff, half way to Rottingdean, and is well worth a visit. At Sylvan Lodge Dr. and Mrs. Holmes Meyrick, and at Wick School the head master, Mr. Thring, are also entertaining members at garden parties.

A Masonic reception has been arranged, the Worshipful Wardens of the Hove Ecclesia Lodge having extended a cordial invitation to all medical Masons to attend a special Lodge at the Old Ship Hotel, following the church service on Wednesday. Tea will be provided.

A visit to Brighton College, situated in Kemp Town, has been arranged, and an all-day cricket match in the grounds will probably be arranged.

This fine public school was founded in 1845, and erected from designs by Sir Gilbert Scott. In the early Eighties the school increased in numbers to about 200, and two large boarding houses were added, designed by Sir T. L. Jackson. The old sanatorium was also built at this time, but has since been adapted as an engineering workshop, and a new sanatorium has been provided. In 1903 there were further additions in the shape of quarters for the day boys. During the last few years the school has been growing rapidly, and has recently reached the record number of 250 boys.

Plans have just been accepted by the council for the erection of a big schoolroom and gymnasium at a cost of about £6,000. The work is to be started immediately, and it is hoped that the ceremony of laying the foundation stone of the new buildings will take place on July 26th, and that some members of the Association will be present.

Among old boys who have achieved fame in the medical profession are Inspector-General H. C. Woods, R.N., C.B., C.V.O., honorary physician to the King; Mr. C. Higgens, consulting ophthalmic surgeon, Guy's Hospital; Deputy Inspector-General E. I. Sharwood; and Dr. J. M. Cotterill, President of the Royal College of Surgeons, Edinburgh.

The arrangements for golf are excellent. By the courtesy of the clubs in the town and neighbourhood the links are thrown open to the members of the Association

during the week of the meeting. Among those clubs which have granted this privilege are the following: The East Brighton, the Brighton and Hove, the West Hove, the Southdown, the Pyecombe Club (five miles), Worthing (ten miles), and the Seaford (sixteen miles).

The Ulster Cup, open to all members of the Association, will be played for on Thursday, July 24th, at the East Brighton Golf Club, 18 holes, bogey play, under handicap (limited to 18). It would greatly facilitate the work of the Golf Subcommittee if intending competitors would as soon as possible enter their names, with the following particulars: (1) Golf clubs where they have their lowest handicap, together with that handicap. (2) Name of partner if possible. (3) Time at which they wish to start. Players may start at 9 a.m. Entries to be sent to the Honorary Secretary, Golf Subcommittee, 14, North Street, Brighton.

Ladies' Golf.—Lady visitors, who are members of recognized golf clubs, will be made temporary members of the Ladies' Golf Club at the Dyke. A competition will be arranged during the week, open to wives, daughters, and sisters of members of the Association.

Tennis grounds will be opened to both ladies and gentlemen, and the Croquet Association is holding its tournament (July 21st to July 26th) at the Sussex County Croquet Ground at Southwick. If sufficient members intimate their desire, a cricket match will be arranged between members or against another team. The principal clubs—the New Club, the Union, and the Hove Club—offer hospitality to the Association during their visit. The conductor of the Municipal Orchestra, Mr. Lyell-Taylor, will be glad to arrange to perform any special music desired, if members will intimate the same to him.

The Brighton and Sussex Medico-Chirurgical Society have given permission for the Association members to make use of their library and reading-room during the time of the visit of the conference.

Many inhabitants, both lay and medical, are arranging entertainments and hospitality; lunch and dinner parties are so numerous that one hopes the visitors to the town will survive them. In addition, such bodies as the Irish Graduates' Association and the National Temperance League are arranging their own functions—the former a lunch at the Metropole, the latter a breakfast at the Pavilion.

The Queen's Nurses have expressed a desire that members will visit their new home, the Brighton and Hove memorial to King Edward VII., recently opened in Wellington Road. It is a home up to date in every way, and has been specially designed to meet the complete requirements of the Queen's Nurses in the district.

This survey of the arrangements made for the instruction and entertainment of those members of the Association and their wives who attend the eighty-first Annual Meeting at Brighton, though by no means complete, shows that no stone is being left unturned to make their holiday a complete success, and to send them away from Brighton with a happy recollection of their visit.

LITERARY NOTES.

The Académie Française has awarded the Grand Prix Broquette Gonin of the value of £400 to Professor Grasset of Montpellier. The prize is, in the words of the founder, intended to reward "the author of a work, philosophic, political, or literary, which shall be judged to be of a nature to inspire the love of the true, the beautiful, and the good." Professor Grasset, who has devoted his scientific life to the study of the nervous system, is the author of several works on questions of psychology, moral responsibility, and the philosophy of practical life. They are written in a lucid and attractive style, and have won for him a considerable reputation. This is the first time the prize has been awarded.

The June number of the *Arena* contains a long letter written by Mr. E. B. Sargent, who was a member of the Royal Commission on University Education in London, in which he answers a call for advice from the promoters of a new university in a distant part of the empire. Mr. Sargent is a strong advocate of the establishment of residential facilities in a new university, and gives much expert advice on the subject in this letter. Mr. Aflalo furnishes some extremely useful hints on the subject of the traveller's budget. An article of special interest is one on women students' life in the Scottish universities. There is no reference to the University of Aberdeen, where, to judge from the local academic magazine, *Alma Mater*, and from the class lists, lady students take a prominent part in the life of the university. Besides a reproduction of a particularly fine drawing by Mr. John Key of Worcester College, Oxford, there are many other illustrations.

The cult of the bath, now regarded more or less as the hall-mark of the educated Englishman, is nevertheless of comparatively recent growth in this country, where even yet we can hardly hope to emulate the elaborate apparatus used by the ancient Greeks and Romans for the cleansing of the human body. Bathing, however, has at last been recognized as a powerful agent for the preservation of heal h and the prevention of disease, and for this reason, in many countries, baths are provided in the public schools for the use of those children who are unable to obtain them at home. The therapeutic properties of the school bath are discussed by Dr. R. Fortescue Fox in an article that appeared in the May number of *The Child*, in the course of which the writer states his reasons for preferring the douche to the tub bath or swimming pool now in vogue in English schools. "Experience has shown," says Dr. Fox, "that the routine use of douche baths at school has had the best effect on the physical and mental condition of the children," partly, no doubt, because there is less fatigue and less chance of infection with the douche than with the swimming bath, and also because the former is far more cleansing and invigorating than the ordinary plunge bath. It is, however, impossible to make hard and fast rules with regard to school bathing, since children's constitutions differ as widely as those of adults and require to be studied with equal care. The school bath, as Dr. Fox reminds us, has to meet needs of a very variable kind, and school bathing should therefore only be carried out under strict medical supervision, the advice of the school doctor being asked in every case in order that the child may derive full benefit from the treatment. The May number of *The Child* also contains a short account of the Alexandra Hospital for Children with Hip Disease by Mr. Stanley Smith, and an interesting description of the work of the Salvation Army amongst the children of the London slums, to which Mrs. General Booth has contributed an introduction.

George Borrow, "the walking lord of Gypsy Lore," as he has been called, was born in 1803 at Dumpling Green, near East Dereham. He was e lucated at Norwich Grammar School, and at various periods of his life he dwelt in Norwich, Great Yarmouth, and Oulton, near Lowestoft. It is now felt by his admirers that the time has come when the place of the author of *Lavengro* in English literature is sufficiently recognized to call for some permanent memorial of him in Norwich. The committee, among the members of which we note the names of the venerable Sir Peter Eade and Dr. H. Cooper Pattin, Medical Officer of Health to the City of Norwich, has come to the conclusion that the most suitable form of memorial is the preservation of the house in which Borrow lived while in Norwich, and it is proposed to equip it as a permanent Borrow Museum. The Lord Mayor of Norwich (Mr. Arthur Michael Samuel) has offered to defray the cost of purchasing the freehold of the house, and at a meeting of the City Council, held on May 20th, it was resolved to accept the proposed gift, and maintain the house in trust as a permanent museum. The committee now confidently appeals for funds to alter the house into its original condition, to furnish it suitably, replacing such of the original furniture as can be recovered, and to secure by gift, loan, or purchase, books, manuscripts, letters, portraits, drawings, and other objects for exhibition in the museum. The formal presentation of the deeds of the house to the Corporation will be made the occasion for a celebration at Norwich on July 5th.

British Medical Journal.

SATURDAY, JUNE 7TH, 1913.

THE AMENDMENT OF THE INSURANCE ACT.

THE Government is pledged to introduce this session a bill to amend the Insurance Act, and the results of recent by-elections have produced a plentiful crop of rumours as to the matters which will and will not be dealt with in the bill that is being prepared. All these rumours should be received with the greatest reserve, for there is good reason to believe that the intention of the Government was, and probably still is, to avoid as far as possible the introduction into the amending bill of controversial matters. This may not be very easy of accomplishment, as upon some of the points to which the Government has undertaken to give attention there are differences of opinion.

The Government now has before it, in the considered Memorandum published in the SUPPLEMENT this week, the views of the British Medical Association as to the amendments immediately required in the Act and Regulations, and it is understood that it has been made acquainted also with the opinions of friendly societies, trade unions, and many labour members.

The medical profession will no doubt generally have recognized that, though there need not necessarily be conflict between the desires of labour and medicine with regard to amendments of the Act, its unpopularity with the insured, of which the by-elections are alleged to have given evidence, is not due to the same causes as render it distasteful to the profession, and that, so far as the Government may, as a matter of political tactics, be disposed to modify the existing system in the amending bill, changes introduced with any such motive are not likely materially to affect medical interests for the better.

The advanced stage of the session, the very large amount of other business which ought to be done, and the freely-expressed distaste of members of Parliament of all parties to undergo again the pains of an autumn session are all factors which will undoubtedly have weight with the Cabinet and tend to deter it from introducing a bill which goes beyond what it considers to be the irreducible minimum of amendment.

It seems clear that the bill must contain certain financial provisions; it must, for example, embody the provisions with regard to the additional sum for medical benefit, £1,877,000, promised by the Chancellor of the Exchequer last October, including the grant of money to assist in providing medical benefit for those persons insured under the Act who were 65 years of age at the appointed day. The Chancellor of the Exchequer has also undertaken to give attention to the position of the insured persons who subsequently become well-to-do. Under Section 1 (3) (*b*) such persons may continue as voluntary contributors if they have been insured for five years, and the justice of the medical objection that thereby a number of well-to-do people with incomes of more, sometimes far more, than £160 may be able to take advantage of State-aided insurance is acknowledged.

Another point which it seems to be generally agreed must be dealt with in the amending bill is the case of the casual labourer, who may be subject to having a deduction of 4d. made from his wages for only an odd day's work in a week, or who, if unsuccessful in obtaining work on a Monday, sometimes feels himself obliged to put a 7d. stamp on his card in order not to be at a disadvantage on subsequent days of the week.

The Association has put in the forefront of its Memorandum certain points with regard to the definition of the services to be rendered as part of the contract to give medical benefit which it has on several previous occasions placed forcibly before the Government. They were in particular fully set out by the deputation appointed by the Representative Meeting of November last, which had an interview with the Chancellor of the Exchequer on November 25th and 26th. These points were with regard to the provision of the services of a second practitioner (especially for the purpose of administering an anaesthetic), the treatment of diseases due to misconduct, and the treatment of miscarriages, abortions, and their consequences arising within four weeks. The Chancellor of the Exchequer did not meet the Association on any one of these points, and the Memorandum raises them again, all the more strongly as the experience of the working of medical benefit under the Act has fully confirmed the contention that the present interpretation of medical benefit operates unfairly to the medical profession, and is contrary to public policy. There can be no question in the mind of any person, lay or medical, that a medical practitioner should not be expected or encouraged to give an anaesthetic while at the same time rendering some other service to the patient. The practice is dangerous, but an insured person has no claim upon any doctor other than the practitioner on whose list his name is included. The case for the amendment of the system which makes it a duty of a practitioner under his agreement as drafted by the Commissioners to treat abortions and miscarriages as a part of the services he has undertaken to render, is very strong. The treatment of abortion, especially an early abortion, is a most anxious matter calling for the highest skill and judgement and making most serious demands upon the practitioner's time. Further, arguments of the same nature as those which weighed with the framers of the Act and led them to introduce maternity benefit as a special and separate form of benefit, arguments which have reference to the welfare of the woman and her possible future offspring and to the need for her to abstain from work and to receive careful treatment, apply with undiminished force—many experienced practitioners would say with even greater force—to abortion and miscarriage. It is not to the interests of the nation to encourage women to regard such events lightly.

The Memorandum submitted by the Association calls attention to the fact that Insurance Committees have with few exceptions failed to take advantage of the authority given to them under Section 15 (3) to require persons whose income exceeds a limit to be fixed by the Committee to make their own arrangements. The Association desires that the Act should be amended so as to make it incumbent upon the Insurance Commissioners to require Insurance Committees to adopt a local income limit, the limit to be subject to the approval of the Commissioners. The Memorandum also calls attention to the justice of so

amending the Act as to ensure that when the income from all sources of an insured person exceeds £160 per annum he should be required to make his own arrangements, and that in estimating the amount of income the total income from all sources should include any income independent of the personal exertions of the recipient, whether received by way of an allowance or otherwise. At the present time young men in receipt of a small salary, but in receipt also of a substantial allowance from their fathers, are compulsorily insured, and are therefore in a position to take advantage of the medical attendance provided under the arrangements with the Insurance Committee, and in some instances are actually taking advantage of such opportunities.

The Memorandum raises three points with regard to the representation of the profession on committees administering the Act, and recalls the fact that during the progress of the bill through Parliament the Association repeatedly drew attention to the defect in the composition of the Insurance Committees which gave to one interest a permanent majority over all the others. The effect of this, as was foreseen, is that the Committees are not so constituted as to be qualified to give a fair consideration to questions in which the interests of the dominant party are directly involved. A related point is that the Act did not give any direction as to the way in which District Committees shall be constituted. County Insurance Committees are required, after consultation with the County Council, to submit a scheme for the appointment of District Insurance Committees for the county, and there was an understanding that the profession should have representation on these District Committees corresponding to that which it has on the Insurance Committee. The understanding, however, was not embodied in the Act or Regulations, and the Association urges that this defect should be rectified by an amendment providing that the medical representatives should form the same proportion of a District Insurance Committee as of the County Insurance Committee. Similarly, the profession is not represented on the Committee of the Seamen's National Insurance Society, a body constituted for the purposes of the Insurance Act by the Board of Trade; its affairs are administered by representatives of that Board, of shipowners, and of members of the society in equal proportions. In the case of the home and coasting trade the ordinary rates of contribution apply, but in foreign-going ships the employer's contribution is reduced to 2d., and the seaman's is reduced by one-fifth. The insured persons are entitled to medical, sanatorium, sickness, disablement, and maternity benefits. The Association asks that the medical profession should be represented on the Committee of this official society in the same proportion as on Insurance Committees. It believes that by these reforms the administration of the Insurance Act will be rendered more efficient, and that there will be less risk of friction among the different sections if no one interest forms more than two-fifths of the total membership of the Committees.

With regard to temporary residents, the Memorandum distinguishes three classes—holiday-makers, convalescents, and persons who remove in the course of their employment. With regard to holiday-makers, the Association contends that they should not be entitled to medical treatment under the Act. With regard to persons removing in the course of their occupation, it urges that all such persons should be required to make their own arrangements, and not merely certain classes of them, such as actors and commercial travellers. With regard to persons who go away to the country or seaside on account of ill health, the Association urges that the Act should be amended so as to procure the provision by the Government of a special central fund, apart from any moneys already allocated for medical benefit, to provide for the medical attendance and treatment of such persons when temporarily absent from home. We believe that some members of the Government are not unaware of the injustice of the present arrangement and are not insensible to the arguments which have been adduced for the establishment of such a central fund. It may be hoped that their views will prevail.

Among the other points dealt with in the Memorandum are the proposal that the plan of attempting to deter insured persons from unnecessary night calls by inflicting a penalty should be replaced by a system of making a special charge for all such calls; the suggestion that before a draft agreement is issued in its final form it should be submitted to the Local Medical Committee; the proposal that medical practitioners, if they so elect, should be authorized to dispense medicines to insured persons on their list in all cases where the patient is more than a mile from a chemist on the list; and the proposals with regard to the mode of appointment and tenure of office of medical referees.

MOCKERS AT MEDICINE.

LIKE Falstaff, the doctor is the cause that wit is in other men. From time immemorial he has been used as a target by jesters of all sorts, great and little, to such an extent that he might ask with Dr. Johnson, after hearing so much criticism of himself, Are we alive after all this satire? If ridicule could kill, the doctor would long ago have become extinct. But, as Byron says in speaking of the physicking of Don Juan:

> This is the way physicians mend or end us
> *Secundum artem*; but although we sneer
> In health—when ill we call them to attend us
> Without the least propensity to jeer;
> While that "hiatus maxime deflendus"
> To be fill'd up by spade or mattock 's near
> Instead of gliding graciously down Lethe
> We tease mild Baillie or soft Abernethy?

Those who have never known what it is to be ill look upon disease as Samuel Butler, the author of *Erewhon*, regarded it—as a crime which society should punish. Logically they should treat the doctor as a malefactor, and we should perhaps be grateful that they only scoff at medicine and its professors. Many, however, who laugh loudest at the doctor are merely bluffing; the least touch of indisposition sends them forthwith to the consulting room or the surgery, and though they may affect to treat the counsel of the oracle with contempt, they get the prescription made up, even though they may boast that they do not intend to take it. In such cases the doctor has the best of the joke, for he pockets his fee, and if his advice is disregarded that is the patient's concern.

A large class of those who gibe at the doctors is made up of people whose minds have an elective affinity with quackery. The more absurd the pretensions of the vendors of secret remedies, the blinder is the faith with which they are believed by those afflicted with this warp of the intelligence. They would say, with Tertullian, *Credo quia impossibile*. Of course, these misguided folk dislike the doctor, who is, in their eyes, the representative of the authority of science. Then there are the cranks who

believe in nobody but themselves, and who hold that fasting, deep breathing, dispensing with breakfast, or "living according to the laws of Nature"—so easy to do if one always knew them—will prevail or cure all diseases. Some again there are whose professed contempt of the doctor is merely a pose. Of this class Mr. Bernard Shaw may be taken as the type. Like Verges, "he will be talking" whether he has anything to say or not, and his denunciation of doctors is only a mountebank trick to dazzle the silly people who take him seriously. A French writer has recently called Mr. Shaw the Molière of the twentieth century, but the satire of *The Doctor's Dilemma* is like a shillelagh compared with the polished rapier of the creator of Diafoirus, Purgon, Desfonandrès, and the other medicine men whom he ridiculed. Molière belongs to an altogether different class of jester from those which have been mentioned. The shafts of his satire were barbed by the anger of a sick man against the art of medicine which could do nothing for his relief. He did not put on the cap and bells to amuse the groundlings; his wit was no *ignis fatuus*, but a scorching flame which burnt the pompous wig of pedantry and exposed the bareness beneath. Molière may justly be ranked among the reformers of medicine.

Another famous invalid who scoffed at medicine because it failed to cure him was Montaigne, who suffered much from renal colic and gravel. His contempt for medicine was more cheerful than that of Molière. Speaking of the art of healing as it was in his day, he says: "My conceit of it is both the worst and the best a man may imagine; for thankes be to God there is no commerce between us. I am contrary to others, for I ever despise it; and when I am sick, instead of entring into league or composition with it, I then beginne to hate and feare it most, and answer such as urge mee to take Physicke, that at least they will tarie till such time as I have recovered my health and strength againe; that then I may the better be enabled to endure the violence and hazard of their potions. I let nature worke, and presuppose unto my selfe, that she hath provided her selfe, both of teeth and clawes, to defend her self from such assaults as shall beset her, and to maintaine this contexture or frame, whose dissolution it so much hateth. In liew of bringing helpe unto her, when shee most striveth, and is combateth by sicknesse, I greatly feare lest I bring succor unto her adversarie, and surcharge her with new enemies." But though he despised the art, he was, like Molière himself, friendly with its professors. On this he says; "As for me I honour Physitions, not according to the common-receiv'd rule, for necessitie sake (for to this passage another of the Prophets may be aleaged who reprooved King Asa because he had recourse unto Physitions) but rather for love I beare unto themselves; having seene some and knowne diverse honest men amongst them and worthy all love and esteeme. *It is not them I blame but their Arte.*" He goes on to describe his relations with doctors when he was ill: "I send for them when I am sicke, if they may conveniently be found; and love to be entertained by them, rewarding them as other men doe. I give them authority to enjoyne me to keepe my selfe warme, if I love it better so than otherwise. They may chuse, be it either leekes or lettuce, what my broth shall be made withall, and appoint me either white or claret to drink: and so of other things else, indifferent to my taste, humour, or custome."

Nevertheless he attributes the recourse that is had to doctors to fear and credulity, and he maliciously notes that they themselves when ill placed little trust in their own remedies. For himself he professed to prefer the remedies of old women to those of doctors, because they were harmless. There is (he says) no "poore Woman so simple, whose mumbling and muttering whose slibber-slabbers and drenches we doe not employ. As for mee, were I to buy any medicine, I would rather spend my money in this kinde of Physicke than in any other: because therein is no danger or hurt to be feared." He seems, however, to have got no relief from "this kinde of Physicke," for he visited the healing springs of France, Switzerland, Germany, and Italy, everywhere testing on himself the efficacy of the waters. He took careful notes of his symptoms, and looked for hopeful signs in these "Sybilline leaves," as he calls them. Whether he was a hypochondriac or not—a point which has been a good deal debated—he studied himself with minute attention and watched the effect of his self-prescribed remedies. He bore his sufferings bravely, and he may be excused if he thought lightly of the art which failed to relieve them.

It must be admitted that physicians in the days of the wig and the gold-headed cane brought a good deal of ridicule upon themselves by the gulf fixed between the largeness of their pretensions and the slenderness of their performance. We have now learnt the lesson taught by David Pitcairn, who died as long ago as 1800. Asked his opinion of a certain book on fevers, he replied: "I do not like fever curers; we may guide fever—we cannot cure it. What would you think of a pilot who attempted to quell a storm? Either position is absurd. We must steer the ship as well as we can in a storm and in a fever. We can only employ patience and judicious measures to meet the difficulties of the case." As medicine has become more scientific it has become more humble. The sacerdotal dogmatism which used to prevail among doctors has now been banished from the ward, and has found a refuge in that very modern shrine, the laboratory. The debt which practical medicine owes to research is incalculable, and without it progress would be impossible. But the laboratory worker is not always in perfect sympathy with the practitioner, whom he is perhaps too apt to look down upon. And it cannot be denied that from the laboratory have come a number of vain things which have given cause for irreverent laughter to mockers at medicine.

A MONUMENTAL BILL.

BILL No. 47, presented to the House of Commons this session by Mr. Rendall and eleven other members, deserves mention, not only for what it contains of professional interest, but as a mine of information for curious persons with abundant leisure, as well as for those who wish to refer to Acts of Parliament since the time of Edward III until the present day, and for those who desire to obtain the titles of the various Acts of Parliament which relate to particular subjects. It was ordered to be printed on March 19th, contains 389 pages, and is issued by the Stationery Office at the price of 3s. 2d.

The purpose of the bill is to re-enact, with additional matter and amendments, the Interpretation Act, 1889, and the Short Titles Act, 1896. It consists of four parts and three schedules, and we are informed by its introducer that if it were passed into law it would save thousands of pounds every year to those engaged in litigation. It sets out the existing Acts which relate to particular subjects, as well as those Acts or parts of Acts which are repealed. The

first four parts of the bill consist of interpretations and the definitions of titles.

In the first schedule are set out various Acts of Parliament with their title and short title from the time of Edward III to the present day. In the second schedule the various Acts relating to particular subjects are grouped together under their short titles and indicated by collective titles, alphabetically arranged. Thus, under the Medical Acts we find nine statutes dating from the Medical Act of 21 and 22 Vict. to the University of Wales (Medical Graduates) Act, 1911. The third schedule contains a recital of the measures which are repealed.

The definitions relating to the medical profession are set out in Sections 20, 21, and 22 of the bill. It will be remembered that at the time of the passing of the Insurance Bill some medical men and some members of Parliament raised the question as to the expression used in the bill indicating a "legally qualified medical practitioner." Clause 20 of this bill shows that any one so described or described as a "duly qualified medical practitioner" or as "fully qualified" or as "registered," or described by any expression "importing a person recognized by law as a medical practitioner or member of the medical profession, shall mean a person registered under the Medical Act and any Act, past or future, amending the same." In Section 21 the expressions "General Medical Council," "medical corporation," "diploma," and "medical diploma" are defined. In Section 22 a midwife is defined to mean "a woman who is duly certified under the Midwives Act, 1902," and the Central Midwives Board is therein defined. Section 37 gives the meaning which is to be attached to the various benefits under the Insurance Act, and in Section 74 the different Royal Colleges of the medical profession are defined; but it is noticed that an omission occurred here, for no mention is made of the Faculty of Physicians and Surgeons of Glasgow.

It would be impossible within the compass of an article to give an indication of the numerous terms and expressions which are defined in the different sections of the bill. The expression "medical" includes surgical, and the expressions "medicine and medicines" include drugs, and the expression "drugs" includes medicine. The expression "woman" includes a girl, and the expression "man" includes a boy; but there appears to be nothing to show where the "child" ends and the boy or girl begins.

Apart from the professional interest, the second and third schedules provide abundant material both for entertainment and profit. The Habeas Corpus Act, 1679, is described as "An Act for the better securing the Liberty of the Subject and for Prevention of Imprisonments beyond the Seas." The Cestui que Vie Act, 1707, is described as "An Act for the more effectual Discovery of the Death of Persons pretended to be alive to the Prejudice of those who claim Estates after their Deaths." The Riot Act is described as "An Act for preventing Tumults and riotous Assemblies, and for the more speedy and effectual punishing the Rioters."

An Act which might perhaps provide food for controversialists in their platform utterances on one of our current political questions is "The Mortuaries (Bangor, etc.) Abolition Act, 1713," which is described as "An Act for taking away Mortuaries within the Dioceses of Bangor, Llandaff, St. David's, and St. Asaph, and giving a Recompense therefor to the Bishops of the said respective Dioceses." In a similar way "The Mortuaries (Chester) Act, 1755," illustrates the control of the Church at that time over mortuaries.

There are several Acts which relate to the punishment of witchcraft and similar impostures. The Witchcraft Act, 1835, is described as "An Act . . . for punishing such Persons as pretend to exercise or use any kind of Witchcraft, Sorcery, Inchantment, or Conjuration"; but it is to be feared that the records of the Acts of Parliament are strewn with ineffective efforts to improve and restrain by legislation the habits and beliefs of the people.

In 1744 the Gaming Act was directed to prevent "excessive and deceitful Gaming, and to restrain and prevent the excessive increase of Horse Races," and the Profane Oaths Act in the following year was intended "more effectually to prevent profane Cursing and Swearing." At that time and for some years afterwards Acts to prevent cattle theft, frauds by workmen, treason, the illicit sale of spirits, disorderly houses, murder, and so forth, appear to have occupied a considerable portion of the time of the Legislature; but few, perhaps, would expect an Act of Parliament which relates to the theft of vegetables to be thus described: "An Act the title of which begins with the words, 'An Act for repealing so much of an Act,' and ends with the words 'Parsnips, Pease, and Carrots.'"

The first Act that is mentioned relating to provision made for lying-in women appears in 1773, and is entitled "An Act for the better regulation of Lying-in Hospitals, and other places appropriated for the charitable Reception of pregnant Women; and also to provide for the Settlement of Bastard Children born in such Hospitals and Places."

At the present time, when the methods for dealing with persons of a refractory disposition and who commit outrages have entered so largely into public and parliamentary discussions, some of those who are not disposed to be mild-mannered in their method of treatment may regret the absence from our Statute Book of two Acts which were abolished in 1816 and 1820. In 1816 the Pillory Abolition Act was passed which was intended to "abolish the punishment of the pillory except in certain cases," and in 1820 the Whipping Act is described as "An Act to repeal an Act passed in the Fifty-seventh Year of the Reign of His late Majesty King George the Third, intituled 'An Act to Abolish the Punishment of Public Whipping on Female Offenders,' and to make further provisions in lieu thereof."

From the time of the passing of the Apothecaries Act in 1815, the number of Acts of Parliament dealing with public health, the sick and the poor, the protection of food and such like matters, shows a progressive increase, and during the later years they form a considerable proportion of the Acts recorded in this catalogue. It would, however, be inappropriate at this place to attempt to give a summary of them; but whether the bill under notice finds its way on to the Statute Book or not, a copy of it may well be obtained by those who are interested in those matters and for purposes of reference. The labour involved in its preparation will in that way, at all events, not have been entirely in vain, for it is impossible to avoid the conviction that as a private member's measure it is not likely to be passed into law. One who was disposed to scoff might also suggest that the fact that it is intended to reduce the cost of litigation does not provide it with a favourable handicap with that large body of members who belong to another learned profession, and any one of whom can prevent its second reading by being present in the House when the title of the bill is called after the termination of public business and rising in his place and saying, "I object."

BIRTHDAY HONOURS.

AMONG the announcements in the list of birthday honours are two which will excite particular interest and pleasure among all members of the medical profession. The work done by Sir Arbuthnot Lane has been and is an inspiration and stimulus to surgeons not only in this country, but all over the world, and the boldness of his speculations have been justified by the skill which has established their truth. The baronetcy now fittingly conferred upon him in recognition of his eminent services to the science and art of surgery happily coincides with the entry into the stage of convalescence of a princess at whose bedside two continents have watched with affectionate solicitude. Professor Schäfer has won the highest distinction in another field of the wide territory of medicine, and his influence also has been inspiring and stimulant. He combines in himself two of Mr. Balfour's classes of men of science, for he possesses not only the genius of research, but the power to teach and infuse into his pupils something of his own enthusiasm and energy. The knighthood conferred on Dr. Thomas Flitcroft of Bolton will be a source of particular gratification to members of the British Medical Association, for he has been an active worker for it as a member for many years of the Representative Body and of the Lancashire and Cheshire Branch, of which he is now President. He is also Chairman of the Local Medical Committee under the Insurance Act. The same honour, conferred on Dr. Herbert Smalley, Medical Inspector of Local Prisons and Superintending Officer of Convict Prisons, is a recognition of a long and honourable career in the public service. The knighthoods conferred upon Dr. A. J. Horne, ex-president of the Royal College of Physicians of Ireland, and Mr. R. H. Woods, ex-president of the Royal College of Surgeons of Ireland and President of the Irish Medical Association, are gratifying recognitions accorded to the medical profession in Ireland. A knighthood is also conferred upon Major E. S. Worthington, M.V.O., R.A.M.C., who served in South Africa, 1899–1902, has been medical officer to the Duke of Connaught, Governor-General of Canada, since 1911, and has been in constant attendance upon the Duchess of Connaught during her illness. The honour of knighthood is also conferred on Lieutenant-Colonel James Reid Roberts, C.I.E., I.M.S., surgeon to the Viceroy of India. A similar honour is conferred upon Dr. Alexander MacCormick, honorary surgeon to the Prince Alfred Hospital, Sydney, lecturer on surgery in the University of Sydney and honorary consulting surgeon to the Commonwealth military forces. Surgeon-General Henry Hamilton, C.B., I.M.S., retired, is promoted to K.C.B., and the decoration of C.B. is conferred upon Deputy-Surgeon General William Maxwell Craig, M.B., R.N.; Surgeon-General Louis Edward Anderson, Deputy Director of Medical Services, Ireland; and Lieutenant-Colonel John Crimmin, V.C., C.I.E., I.M.S. Dr. H. P. Keatinge, Director of the Kasr-el-Ainy Egyptian Government Hospital and Medical School; and Dr. A. H. Spurrier, late Medical Officer of Health at Zanzibar, receive the C.M.G. Lieutenant-Colonel Gerard Godfrey Giffard, I.M.S., Superintendent of the Government Maternity Hospital, Madras, receives the C.S.I.; and Major R. J. Blackham, R.A.M.C., commanding the Station Hospital, Jutogh, is made C.I.E. The Kaisar-i-Hind Gold Medal is conferred upon Lieutenant-Colonel P. Balfour Haig, I.M.S., Agency Surgeon, Bhopal, Central India, and the Rev. J. Buchanan, M.D., missionary, Amkut, Central India. The services of medical officers in the Territorial Force are recognized by the appointment of Colonel W. H. Bull, F.R.C.S., Assistant Director of Medical Services of the South Midland Territorial Division, and Colonel John Arnallt Jones, M.D., Assistant Director of the Medical Services of the Welsh Territorial Division, to be Honorary Surgeons, and of Colonel William Kinnear, M.D., Assistant Director of Medical Services of the Highland Territorial Division, and Colonel Charles P. Oliver, M.D., Assistant Director of Medical Services of the Home Counties Territorial Division, to be Honorary Physicians to His Majesty.

PRELIMINARY EXAMINATION AND EDUCATION.

IN a note which will be found elsewhere in our columns Sir Henry Morris criticizes the report presented by its Education Committee to the General Medical Council, and in great part adopted during its recent session. He appears to regard the report as on the whole ill advised and ineffectual. Some years ago the Council decided that it was desirable to raise the standard of preliminary education, and the measures then decided upon were to take effect from January, 1914. The report presented last week was intended to provide the means for carrying out the intentions of the Council, and had relation to the standards of examination recognized for the purpose of admission to the *Students' Register*. An amendment was, however, moved that words should be inserted making it more clear that to this and this only the recommendations of the Committee referred. In this amendment, and in the speeches made in its favour it was thought that there was an echo of the old controversy between the Council and the Royal Colleges as to the powers of the Council. The amendment was carried, but did not end the discussions, for some thought that the recommendations, which entered into much detail, interfered with matters as to which the Council and its Committee were not experts. Attempts were made to refer the whole report back, but the Chairman of the Committee explained that to do so would almost be a breach of faith with the educational bodies with whom it had been in correspondence; some of them had modified their examinations to meet its wishes, and delay would cause serious inconvenience in the cases of those Indian and Colonial bodies which desired immediate guidance so as to make their examinations such as the Council would approve. Accordingly most of the recommendations were passed, including those affecting the recognition of certain examinations, some of which had been modified to meet the suggestions of the Committee. But a clause prescribing the percentage of marks which should suffice for a pass in the various subjects was thrown out altogether. This percentage was higher than that recommended in earlier reports, and, as Sir Henry Morris points out, its rejection leaves the bodies either without guidance, or with the guidance only of the old scale. It is open to question whether both the Committee, and apparently Sir Henry Morris also, do not attach too much importance to laying down the percentage of marks for a pass. Marks do not admit of being allotted with mathematical accuracy, and an examiner is much more likely to have in his mind the question whether the marks he is giving are pass marks, or more, or less, than to try precisely to appraise the merits of an answer in its relation to theoretical perfection. If this view be correct, then the question whether pass marks are to be 40 or 50 per cent. of full marks will not greatly affect the result. A more important matter is the proposal to abolish compensation between subjects—that is to say, to require that an excess of marks obtained in one subject shall not be allowed to compensate for a moderate deficiency in another. Such a rule is proper in an examination on professional subjects where a minimum knowledge cannot be dispensed with, but the case is different where the object is to ascertain, not that the candidate knows this or that thing, but merely that he has been educated up to such a point that he is in a position to profit by the teaching of a medical school. It is true that, as Sir Henry Morris points out, this prohibition is not embodied in the recommendations passed by the Council; but the passage stands in another part of the report, and it is not to be assumed that bodies

studying it in order to ascertain the views of the Council will discriminate very sharply between what has and what has not been passed as a definite recommendation; thus the expression of the Committee's opinion may have its effect notwithstanding. The hope that some form of school-leaving certificate may be officially established in England and Ireland was voiced by Sir Francis Champneys, and met with cordial support; but the Council has already made representations upon this subject. It is obvious that this would be the easiest solution of all the difficulties connected with the testing of preliminary education, and there is reason to believe that the Board of Education is also of this opinion.

CERTIFICATES AND THE MEDICAL PROFESSION.

There is probably no body of men in the country called upon so frequently as the medical profession to give certificates, and none upon whose word more absolute reliance is placed by the public. It would seem that the very frequency with which this duty has to be performed has sometimes tended to produce some laxity, which should be carefully guarded against. Cases which within the last few years have come before the General Medical Council show that most serious consequences may follow on any such laxity. This observation is illustrated by a matter into which the Council inquired last week. It was reported to it that a practitioner had been convicted at the Central Criminal Court of improperly filling up declarations upon forms of application for passports, and had been fined £50. It appeared that he had no real knowledge of the persons who applied to him. The Council took a serious view of the case, because, although the declarations were not certificates relating to any medical matter, it was in virtue of being a registered medical practitioner that he was enabled to sign them, medical practitioners being one of the classes of persons whose certificates are accepted for the purpose. During the course of the hearing of the case attention was called to the fact that the Council had issued a special warning notice with regard to certificates of all kinds in 1911, and the President, whose remarks are reported in the Supplement of May 31st, p. 493, quoted the operative parts of this notice in so far as they referred to the particular case. The notice issued in 1911 was in the form of a resolution adopted by the Council on November 30th in that year. In addition to passport declarations, it enumerated a number of other certificates which medical men may be called upon to sign, and, among these, certificates in connexion with sick benefit, insurance, and friendly societies were specified. The Insurance Act has probably added very largely to the number of certificates which have to be signed, and the need for the most punctilious regard to the terms and character of every certificate is evident in order that the honour and reputation of the medical profession may not suffer, as it must should it appear that the trust imposed in us to certify accurately is misplaced. The attitude taken up by the General Medical Council towards those practitioners who have been brought before it on charges of this kind shows a determination to deal severely with what it rightly regards as a grave danger to the character of the medical profession. The warning notice issued by the Council in 1911 and printed in the Supplement to the Journal of December 9th, 1911, p. 607, stated that as the Council had had evidence before it that some registered medical practitioners had given and signed untrue, misleading, or improper certificates, it gave notice that any registered medical practitioner shown to have given any improper certificate, whether relating to the matters enumerated in the notice or otherwise, was liable to be adjudged to be guilty of infamous conduct in a professional respect, and to have his name removed from the *Medical Register*.

MEDICAL DISTINCTION AND LONGEVITY.

As insurance statistics show, the medical profession as a class stands low compared with other occupations in respect of longevity. The preparation is long and severe and has necessarily to be carried out to a considerable extent under conditions of a kind likely to impair health. Then there is the struggle to obtain a footing, often in the face of circumstances that tend to break the spirit and undermine the constitution of a person of no more than ordinary strength. Even when fairly established in practice, a doctor's position is usually more or less precarious; his livelihood depends on the maintenance of his health, and he is more exposed than most men to disease and accident. The stress of competition leads to premature wearing out of vital power. Then there are other risks incident to the doctor's profession: he may be done to death by slanderous tongues, as occurred in a painful case recently before the law courts; or his heart may be broken by the ingratitude of patients or the wiles of unscrupulous rivals. These remarks hold good for the average practitioner. But if statistics recently published in the *Montpellier Médical* are to be accepted, there would seem to be a direct relation between distinction in medicine and longevity. The writer, whose name is not given, says that in the course of extensive researches he was struck by the longevity of most members of the medical profession who had left a mark in the history of science from antiquity to the present day. This induced him to work out some statistics of which he gives the results. Of 1,732 practitioners who had achieved distinction and whose exact age at death he was able to discover, he found that 88, or about 5 per cent., died at the age of 25 to 35 years; 122, or about 7 per cent., died between 35 and 45; 270, or about 15.6 per cent., died between 45 and 55; 173, or about 10 per cent., died between the ages of 55 and 60; 199, or about 11.5 per cent., died between 60 and 65; 229, or about 13.2 per cent. died between 65 and 70; 426, or about 24.6 per cent., died between 70 and 80; 205, or about 11.9 per cent., died between 80 and 90; while 20, or about 11.8 per cent., reached the patriarchal age of 90 and upwards. Thus about 37 per cent., or more than one-third, lived the allotted span of threescore and ten. Taking the nineteenth century alone, the proportion of longevity was found to be somewhat higher. Of the total of 1,732 cases, 472 belonged from the period from 1820 to the present time. Analysing these the writer found that 15, or about 3.1 per cent., died between 35 and 45; 62, or about 13.1 per cent., died between 45 and 55; 50, or about 10.6 per cent., died between 55 and 60; 65, or about 13.7 per cent., died between 60 and 65; 75, or about 15.8 per cent., died between 65 and 70; 133, or about 28 per cent., died between 70 and 80; 67, or about 13.8 per cent., died between 80 and 90; 5, or about 10.5 per cent., lived to be over 90. Thus more than 42 per cent. went beyond the biblical limit. The longevity was pretty much the same in all nations. It would appear from this that the activity of the brain is in direct proportion to the physical vitality of the body. The writer holds that this relation between distinction in medicine and longevity is not to be explained by the fact of greater length of days giving the opportunity for a larger output of scientific discovery. He points out that, taking the majority of the men, their reputation was made between 40 and 60. One-third died before reaching middle age. On the other hand, it cannot, we think, be denied that in the case of physicians, as of judges and other brain workers, eminence is largely a matter of survival. To many who seem destined for fame there comes in their early springtime the blind fury with the abhorréd shears and slits the thin-spun life. Capricious fate thus leaves the path to glory open to others. When it is remembered that Bichat died at the age of 31, one cannot help wondering what he would have achieved had his life been spared

for thirty or forty years more. One thinks, too, of Roger Cotes, the mathematician, who died in youth, and of whom Newton said: "Ah, if Cotes had lived, we should have known something!"

ANTISEPTICS AND DISINFECTANTS.

DR. DAVID SOMMERVILLE, in his course of Cantor Lectures at the Society of Arts on antiseptics and disinfectants, dealt with the problem from its scientific side. In his first lecture he traced the experience of mankind with antiseptics from the days of the Assyrian, the Greek, and the Roman down to the work upon antibodies and upon the pathogenic organisms and their environment, which has issued from the laboratories during the last five years. The beginnings of antisepsis might, in fact, be looked for beyond the limits of human history, and the instinct of the animal to lick its wounds afforded an illustration of the use of saliva, which, like the blood and other animal fluids, had a slightly germicidal action. There is evidence that the ancients used a picturesque assortment of substances, including honey, oils, resins, gums, and tar, for disinfecting purposes, and that the washing of a wound in wine was widely practised. Aseptic and antiseptic surgery, said Dr. Sommerville, had had a painfully slow evolution, but all great discoveries, even those of Pasteur and Lister, were due to the crystallization by a clear-sighted individual of what had been simmering for scores of years or for centuries before him. In his second lecture, Dr. Sommerville dealt in greater detail with the composition and mode of action of the chemical substances now used as antiseptics and disinfectants. Metallic salts, he said, were germicidal through the metallic ion, and were more powerful in watery solution than when dissolved in alcohol or ether, because ionization in the latter class of solvent was feeble. In a comprehensive exposition of the subject he demonstrated that antiseptics possessed a variable action according to the species of germ present; that germicidal activity increased with elevation of temperature; that bacteria could acclimatize themselves to antiseptics; that acids did not depend on their chemical energy for their disinfectant properties, but on the degree of ionization to which they could be subjected, and that reactions in heterogeneous systems were accompanied by changes other than the purely chemical. He dealt also with the concentration of bodies on the surfaces of contact between the phases of heterogeneous systems, and showed that adsorption formed an important factor in disinfection. He considered it justifiable to accept the view that in the process of disinfection one or more of these three types of activity might be engaged—namely, ionization with diffusion, adsorption, and purely chemical action—and that this last type of change was usually preceded by the first and second when the disinfectant was an electrolyte. He dealt also with colloidal solutions and emulsions, and discussed the factors which govern the stability of emulsions. In his third and concluding lecture he entered very fully into the theory of the disinfecting process. He suggested that it might be assisted by the meeting of suitable side-chains or affinities in the microbic and disinfectant body respectively. He discussed the hypothesis of internal disinfection by taking Ehrlich's dioxy-diamido-arseno-benzol (salvarsan) as an example. The records of the application of this body to the disinfection of the treponèmes of syphilis, he urged, went to support the view that the sterilization of the tissues within the body was quite possible. Many cases of infection occurred in which the intensity of the toxins was so great that the organism was unable to prepare the necessary antibodies. Such cases rapidly became fatal, as was exemplified in young children who died of diphtheria. A previous use of intelligent disinfection might have so attenuated, if not destroyed, the virulent organism that the body would have been able to respond with the necessary production of antibodies. Death from diphtheria could be avoided in certain cases by the early and judicious use of disinfectants in the throat. There was, he considered, ample experimental evidence that the upper portion of the alimentary tract could be sufficiently disinfected to relieve certain distressing fermentations of that region; that the skin could be disinfected in acne and certain eczemas, and the throat and nose in catarrhal conditions; but in all these cases it was important that the method should be controlled by proper bacteriological examination. To such disinfections the higher phenoloids lent themselves admirably. The lecturer then entered upon a careful description of the Rideal-Walker drop-test method, and the modified method of the *Lancet* Commission, and rebutted certain American criticisms with regard to the former. As a general conclusion, he said that internal disinfection or chemiotherapy had a bright outlook. But with regard to the routine disinfection of clothing and dwellings, carried out as much of it was in a perfunctory manner and without bacteriological control, the outlook was not so bright. If properly handled by competent teachers, this subject of antiseptics would form an interesting and valuable chapter in general education, and in education rather than in governments lay the hope of the future.

THE SKULL OF DESCARTES.

THERE is in the Paris Museum of Natural History a skull, which, according to tradition, once enclosed the brain of Descartes. The Academy of Fine Arts recently invited Dr. Paul Richer, Professor of Anatomy in the Paris School of Fine Arts, and a member both of the Academy of Medicine and the Academy of Fine Arts, to compare by scientific methods, in collaboration with M. Gaston Darboux, the supposed skull of Descartes with the different portraits of the famous philosopher. Dr. Richer himself is a sculptor and engraver of great talent; he is therefore particularly well equipped for the task which he was asked to undertake. The plan adopted by him was first to indicate on a plaster cast given him by the Museum certain distinctive characters which are well marked on the head of the portrait painted by Franz Hals. It is evidently on these resemblances that Cuvier based the opinion that the skull is authentic, which he expressed in 1821. He next drew a skull, as closely adapted as possible, resembling that outlined in the portrait. Then he made a drawing of the Museum skull posed with the same orientation and on the same scale as the head of the portrait. Lastly, he superimposed the two drawings. The first of these procedures is more exact than might "at first thinking," to use a phrase of Swift's, be supposed. As a matter of fact, on every head can be seen a certain number of well-defined bony points; these are particularly apparent in the painting of the Dutch master. In his first drawing Dr. Richer marked certain points—at the root of the bones of the nose, on the external orbital apophyses, and on the nasal spine. These same points were repeated on the cast of the skull in the Museum. By means of these marks it was easy to place with almost mathematical precision the skull in the position which Hals had given his model. The superimposition of the two drawings showed an almost absolute agreement. On the other hand, other drawings made under the same conditions of several skulls taken at random, showed notable discrepancies. The same experiment was repeated with the other portraits of Descartes, namely, that by Sebastian Bourdon in the Louvre; that of Beck, of which there is a copy in the Library of the Institute, the terra cotta medallion of the Versailles Museum, and an old portrait by an unknown painter belonging to M. Rulhe, of Courbevoie. The comparison of the skulls in these different portraits with that of the Museum shows some striking resemblances, but never so complete an agreement as was found with the Hals portrait. Before Dr. Richer began his investigation

much the same procedure was employed by Dr. Verneau, Professor of Anthropology at the Museum, who came to the same conclusion. An account of his examination was given in *Aesculape* for November, 1912. As a matter of history it is known that the skull was detached from the philosopher's body in 1666 by Israel Planstrom, Captain of the Queen of Sweden's Guards, and it was given to the French nation by Berzelius. Now that the relic has been satisfactorily identified, it is suggested that it should be placed in the coffin which contains the decapitated skeleton of the philosopher. This is in the Church of Saint Germain des Prés, where it lies in one of the chapels between the remains of Mabillon and those of Montfaucon. Another suggestion is that the skeleton and skull might be solemnly transferred to the Pantheon in accordance with a decree of the Convention of October 2nd, 1793, to which effect was never given. At a meeting of the Académie des Sciences on January 20th, Professor Edmond Perrier declared that the identification having been made conclusively, it was no longer right that this relic of the great thinker should be left amidst the collections of the gallery of anthropology and palaeontology in the Museum. He undertook to have a kind of reliquary constructed in one of the rooms of the Museum where there are already relics of other famous men. There the skull of Descartes will be deposited, together with the documents establishing its authenticity.

FLOURISHES OF ADVERTISEMENT.

Some time ago Mr. Justice Eve in giving a judgement was reported to have said: "The introduction of this preparation and its advent into this country was heralded by a flourish of advertisement, not overloaded with, but still not altogether devoid of, that picturesque hyperbole and flamboyant mendacity which in general seem to be inseparable adjuncts to the exploitation of a nerve tonic, a hair restorer, or an aperient." The deliverance is interesting in itself and comes with special weight from the lips of a judge. We thank Mr. Justice Eve for teaching us that particularly happy and appropriate phrase "flamboyant mendacity." It exactly expresses the style in which the vendors of many nostrums push their wares on a confiding and gullible public. In default of "flamboyant mendacity" they could not find a market. American vendors are in general past masters in the art of "picturesque hyperbole." To what an extent they have invaded this country our readers do not require to be told. But they seem to spread their nets all over the British Empire. We have received a circular from Burma which shows how the professors of the art of picturesque hyperbole adapt their style to the supposed weaknesses of the people among whom they hope to find a market. The substance to be sold is described as "a well known remedy which supersedes all tonics"; it is said to preserve the health, to increase the brain power, to "stand as a Safe Guard against all weakening losses," to purify the blood, to "regain lost manhood," to "regulate and cure females' complaints of menses and consequences thereof." We are assured that sixteen days' trial guarantees new life, and that being a compound of the most powerful and reliable drugs, it never fails even in the worst cases. It immediately shows its good effects "in improving of health, strength, vigor, and potency, removing old weak and despondent condition and strengthening muscular, circulative, and nutritive systems like magic and thus makes a man again healthy to love his tired life." It is invaluable "in irregularities of periodical illness in females and other diseases of the womb peculiar to the female sex and causing sterility on women kind," and so forth. It will be noted that the hand of the Babu is visible throughout; but it is requested that correspondence should be addressed to an American commercial association. Probably the vendor, if really an American, thought a native would know best how to reach the mind and pocket of the East. The appeal, as is usual in literature of this kind addressed to the Oriental, is mainly to those who wish, in the words of the scribe, "to keep everlasting youth, so as to undergo any amount of waste and exertion, even in old age." But the claims made are much wider than the restoration of lost manhood, and may deceive numbers of ignorant people who have a right to be protected from the lures of traders on human weakness. The real cure for such evils is, of course, the diffusion of a knowledge of the elementary laws of health. But in the meantime the authorities should do everything in their power to check the distribution of such circulars.

DOCTORS AND INTEMPERANCE.

The twenty-ninth report of Dalrymple House, the first established Home for Inebriates, shows that of 1,064 cases admitted and discharged since 1883, ignoring those of no occupation, the medical profession has supplied the second largest number of inmates. The numbers drawn from the professions of divinity, law, and medicine have been 25, 43, and 79 respectively. This disparity may be accounted for by the fact that neither in the clerical nor legal profession is there the same temptation to tide over the want of missing meals, or to whip up the weary system, overtaxed by long hours and fagged by loss of sleep, with the handy, seductive spirit bottle. Sociability is given as the cause of inebriety in more than half the cases admitted to the home; and not even upon the clergy do the claims of social life fall more insistently than upon the doctor. To most of his patients the doctor is something more than medical attendant. The relationship implies sociability. In some places it implies a good deal of it. And if the social glass cements the desire to keep on good terms with patients as well as neighbours, it may lead to spirit drinking in the daytime, between or in place of meals. It is well to know our faults and failings, but that type of doctor, by some strange paradox, said to be "cleverer drunk than sober," is almost if not quite extinct, and it would be interesting to know the numbers of admissions to the home for each complete year. In view of the greater sobriety of doctors, one would expect that the medical profession was not providing so great a proportion of inebriates as it did a quarter of a century ago. Dr. Hogg, the medical superintendent, says there is much misconception as to the home, and inmates have told him that they would have come long before they did had they known what the place and the treatment were like; 42 per cent. of the patients have done well, and Dr. Hogg holds that, when supervision and treatment are possible, alcohol may be withdrawn suddenly and at once, without fear of bad results to the inebriate.

THE ALTON HOME.

On May 31st the Lord Mayor and a numerous company of invited guests visited Lord Mayor Treloar's Home for the Treatment of Surgical Tuberculosis at Alton. The excellent work which is being carried on there has been more than once noticed in our columns, and in this issue the Medical Superintendent (Dr. Gauvain) gives an account of some of the methods of treatment followed there. After seeing the wards and other parts of the hospital the visitors inspected the college, or technical school for all kinds of crippled boys. In this institution the pupils have not necessarily been treated at Alton, but come from all sorts of hospitals and homes, and are crippled by all manner of diseases as well as tuberculosis. Here the problem of how to help those crippled children who are not too severely maimed to earn a living would seem to have been solved, for a great many of those who have been trained there are now earning good wages, and the college authorities could easily find good places for more boys than are available at present. The best paid trade taught there is that of leather bag and case making, and the visitors were able to see for themselves how well

the boys had been taught, and many of them showed their practical appreciation of the results by making purchases. The more severely affected lads learn tailoring and boot making, which trades, although not so well paid as the leather work, have this advantage, that they can be carried on in the patients' own homes, thus saving journeys to and from work. An adequate nurses' home is much needed, and an appeal is now being made for £10,000 for the building and equipment of such a home to be called after Queen Alexandra. Before leaving, the Lord Mayor watched a number of the boys going through a series of Indian club and dumb-bell exercises. Although some of them had lost a limb and all were more or less crippled, they performed with surprising smartness and vigour. The presentation of gold medals to two nurses who had distinguished themselves in examinations followed, and after brief speeches from the Lord Mayor, the Chairman of the London County Council, and others the visitors returned by special train to London, carrying with them very pleasant impressions of the value of the work done in the hospital and college. We cannot help adding, however, that it seems to us a mistake to claim, as was done in the printed particulars supplied to the visitors, that the proportion of successful cases "reaches a figure not approached by any similar institution in the world," for such comparisons must necessarily be misleading, seeing that different institutions have various classes of cases to deal with, and different standards of success.

EPIDEMIC CEREBRO-SPINAL MENINGITIS.

A GOOD deal of public interest has been aroused by the announcement that cases of epidemic cerebro-spinal meningitis have occurred recently at Westerham in Kent. The facts are not so alarming as some of the early statements suggested. Two children in one family, aged 8 and 11, sickened on May 20th; by May 25th they both showed definite signs of epidemic cerebro-spinal meningitis, and a diplococcus was found by lumbar puncture. One child has since died. Three other cases in one family were under suspicion, as they had been in contact with the first two, who were neighbours; these three patients were seized with vomiting, attended by some rise in temperature. They were, however, clearly not instances of cerebro-spinal meningitis, though they were isolated as a matter of precaution. There are no other cases known in Kent. Five other cases of epidemic cerebro-spinal meningitis have been notified in various parts of the county during the last six months; but in no instance has there been any real epidemic, as only one case has occurred in each locality at one time.

THE ANNUAL MEETING, BRIGHTON.

IN connexion with the annual meeting of the British Medical Association, to be held this year at Brighton, the usual railway concessions will be granted to members attending. Return tickets, which will be available from July 17th to July 28th inclusive, will be issued at the rate of a single fare and a third on the presentation of a voucher, which will be supplied to members notifying, on the form to be issued shortly with the list of hotels and lodgings, their intention of being present at Brighton. A separate voucher is required for each passenger. During the meeting reduced fares will also be granted to places within a radius of fifty miles of Brighton, including London. Members who propose travelling to and from Brighton daily should use the first half of the ticket on the first journey to and the return half on the last journey from Brighton, the reduced fares for the intermediate journeys being granted on production at the time of booking of the card of membership.

MR. H. BETHAM ROBINSON, Surgeon to St. Thomas's Hospital, is a candidate at the approaching election to the Council of the Royal College of Surgeons of England.

WE regret to record the death, after a prolonged illness due to infective endocarditis, of Mr. J. H. Targett, obstetric surgeon to Guy's Hospital. We hope to publish a notice of his career in an early issue.

AT the meeting of the Royal Anthropological Institute, to be held at the Royal College of Surgeons of England, on Tuesday next, at 2.30 p.m., Sir H. H. Johnston, G.C.M.G., K.C.B., will give a lecture illustrated by the epidiascope on racial migrations in Africa.

A MEETING of the Section of Surgery of the Royal Society of Medicine will be held at Birmingham on Tuesday next. The members will witness operations at the General Hospital and Queen's Hospital in the morning, and there will be an exhibition of surgical cases at the General Hospital in the afternoon, followed by an ordinary meeting at which Mr. Lawford Knaggs (Leeds) will read a paper on retroperitoneal rupture of the duodenum, and Mr. Jonathan Hutchinson a note on the treatment of Dupuytren's contraction by an improved method. After the meeting the members of the section will be entertained at dinner by the surgical staffs of the Queen's and General Hospitals. This, we believe, will be the first occasion on which the section has met outside London.

Medical Notes in Parliament.

[FROM OUR LOBBY CORRESPONDENT.]

Mental Deficiency Bills.—The adjourned debate on the Mental Deficiency Bill took place on Tuesday, June 3rd, and the same process of obstruction from a small body of members, mainly on the Government site of the House, was employed as on earlier occasions. After an hour had been occupied by a discussion and division under the ten minutes rule on a private member's bill conferring additional rating powers on local authorities introduced by Mr. Wedgwood, the debate was resumed by Mr. Montague Barlow, who contended that the amount provided by the Government of £150,000 a year was quite inadequate, and stated that if the 70,000 defectives existing in the country were to be properly provided for, it would involve in his opinion an annual cost of over £2,000,000. The bill was heartily supported by Dr. Chapple, but Mr. Pringle made an appeal on various grounds that it should not be proceeded with. Mr. Crooks, Mr. McCurdy, and Mr. Harry Lawson spoke in support of the measure, and at 6 o'clock, on the motion of the Home Secretary, the Speaker granted the closure. This was carried by 273 to 96, and the second reading was subsequently carried by 368 to 11. Another division was then taken against the bill being sent to Committee upstairs, but this was carried by 358 to 15. After an hour had been occupied in these three divisions, and as the House was due to rise at seven o'clock on occasion of the King's Birthday celebrations, only half an hour remained for the discussion of the Mental Deficiency and Lunacy (Scotland) Bill. It was briefly introduced by Mr. McKinnon Wood and supported by Sir George Younger, but on the motion of Mr. James Hogge, the debate was adjourned. In accordance with the anticipations in our notes of last week, the prospect for these bills and other minor measures grows daily worse.

Board of Trade Sight Tests.—Mr. Peto asked the President of the Board of Trade whether his attention had been drawn to a memorial signed by thirty leading ophthalmologists, who were of opinion that the sight tests of the Board of Trade were not satisfactory; and, if so, whether he would now reconsider the whole question of these tests. —Mr. Robertson said that careful consideration would be given to these and any other criticisms, but, as at present advised, he did not think that they disclosed any sufficient ground for reopening the question of the tests.

Mr. Peto also asked whether, in respect to officers

holding certificates who had been requested by the Board of Trade voluntarily to surrender their certificates through failing to pass the Board of Trade tests in either colour or form vision, the Board of Trade contemplated taking further action; and, if so, in what way.—Mr. Robertson replied that if any of the officers referred to were unwilling to surrender their certificates the Board of Trade would have no alternative but to order in due course inquiries, under the provisions of Section 471 of the Merchant Shipping Act, 1894, into their competency to hold the certificates.

Ten Years Building.—Mr. Wedgwood asked the President of the Local Government Board what was the total number of dwelling houses of all kinds built between the years 1901 and 1911, how many houses out of this total were built by local government authorities, and what was the estimated number of persons for whom housing accommodation had thus been provided by local government authorities and by private persons respectively?—Mr. Burns said that the figures necessary to give an answer to the precise question were not available. It appeared from Table I of the recently published Volume VI of the Census, that the number of inhabited houses in England and Wales exclusive of London increased by 879,381 between 1901 and 1911. This figure, however, took no account of demolitions, etc., during the intercensal period. Loans were sanctioned by the Local Government Board during that period for the erection of about 4,000 houses under Part III of the Housing of the Working Classes Act, 1890, by extra-metropolitan authorities.

Town Planning Schemes.—In reply to Sir Arthur Griffith-Boscawen, Mr. Burns said that one town planning scheme had been finally approved (Birmingham, Quinton, etc.); that three were before the Board awaiting final approval (East Birmingham, Rochdale, and Ruislip-Northwood), and that fifty others were in process of approval, and that altogether 150 towns and cities were making town planning schemes.

Hop-pickers.—Mr. George Roberts inquired as to the number of local authorities administering areas where labour for hop-picking was employed which had adopted by-laws and called attention to the conditions existing in the county of Hereford.—In reply Mr. Burns said: In only five out of some thirty-four districts in which imported hop-pickers are employed have the local authority failed to make by-laws. Legislation would be necessary to make the adoption of by-laws compulsory, but all these authorities have been urged to make by-laws. The districts had for the last four or five years been inspected by officers of the board, and they reported that the accommodation for hop-pickers was improving. Further visits are to be made this year.

Enteric Fever Inoculation (India).—Mr. Chancellor asked the Under Secretary of State for India if he was aware that the officer commanding the 1st Battalion Northumberland Fusiliers, now stationed at Mhow, India, had relegated to Class 2 service pay, under paragraph 686 of the King's Regulations, as being ineligible for active service, six privates, solely on the ground of their refusal to be inoculated against enteric fever; whether inoculation against this disease was compulsory on objecting soldiers; and, if not, what steps he proposed to take to ensure them against arbitrary penalties for exercising their right to refuse compliance with such orders in future.—Mr. Montagu replied that inoculation against enteric fever was not compulsory, but in view of the fact that it was highly desirable in the interests of the soldiers themselves to preserve them from dangerous illness, every effort was made to persuade and convince soldiers that they should be inoculated voluntarily. The allegation which the hon. member made was quite untrue, and if he would look at the regulation he quoted he would see that it was obviously impossible.

Vaccination (Cow-Pox Virus).—Mr. Snowden asked the President of the Local Government Board whether he was prepared to follow a precedent set up by his predecessor (1902) by ordering all vaccine or virus now in stock to be destroyed, and take steps to enforce the use of cow-pox virus only, as contemplated by the Vaccination Acts, seeing that the vaccine which failed to protect the members of the crew of His Majesty's ship *Conqueror* was derived from a secret unidentified strain of virus obtained from Cologne, and that there appeared to be no means of ascertaining whether such original foreign virus was free from variolous taint, in accordance with the provisions of Section 8 of the Vaccination Act, 1867.—Mr. Burns said that in the case referred to as a precedent, the lymph destroyed was not lymph prepared or issued by the vaccine establishment of the Local Government Board. The lymph obtained from Cologne was a sample of the current lymph of the vaccine institute of that town. During the six years since it was received a large series of calves had been vaccinated with lymph derived from this source, and the lymph from them had been used for a very largo number of successful vaccinations.

Vaccination (Exemptions).—In reply to Mr. Peto, Mr. Burns promised to supply a table showing the increase or decrease in the number of vaccinations in the case of parents and children in each year from 1900 to 1912, and the number of exemptions granted. The power and the duty of taking proceedings against defaulters were vested in the vaccination officer under the Vaccination Acts without any direction from the guardians, and he did not consider it necessary to issue a further circular on the subject.

Foot and Mouth Disease Eradication.—In reply to Mr. C. Bathurst, Mr. Runciman said that he was aware that there had recently been several reports of outbreaks of foot and mouth disease in Great Britain, all of which had happily proved on investigation to be false alarms. The disease had been completely eradicated from Great Britain six months ago, and had not since broken out.

Bee Disease Bill.—In reply to Captain Murray, the President of the Board of Agriculture said that he was well aware of the widespread demand amongst bee-keepers and gardeners for the passing of this bill into law, and he hoped the second reading would be secured in the near future. There was no evidence that the bill was in any sense a controversial measure.

General Medical Council.

NOTES.

Passes and Rejections at the Final Examinations.—In accordance with recent custom the Examination Committee presented an analysis of the annual returns of the final examinations held by the licensing bodies. Amongst those bodies which require that medicine, surgery, and midwifery shall be passed at one time, the largest percentage of rejections is found at the University of London, which heads the list with 54.8, Bristol coming next with 50 per cent., and Queen's University, Belfast, following with 41.8; St. Andrews comes lowest with 13.3 per cent. of rejections. It is difficult to institute a fair comparison between these figures and those of bodies which allow the subjects to be passed separately, but adding together the percentages of rejections in the three separate subjects and dividing by three, neglecting decimal places, the following result is arrived at: The National University of Ireland rejected 33 per cent., Cambridge 31, and Dublin 22; the University of Glasgow 23, Edinburgh 20, and Aberdeen 18; the Scottish Conjoint Board rejected 55, the English Conjoint Board 38, and the Irish Conjoint Board 36 per cent. The percentage of rejections at St. Andrews is remarkably low (13.3), considering that all of the subjects must be passed at one time, though it should be noted that the figures relate to only fifteen candidates.

Exemptions.—The Examination Committee presented a report, which had evidently been considered with much

care, and constituted a strong indictment against a particular body. The attention of the Council had been drawn at a previous session to the fact that exemptions were granted from the earlier professional examinations to candidates who had passed in these subjects at examinations held by bodies whose qualifications do not receive recognition on the British *Register*. The Committee obtained returns which showed that these exemptions were more numerous than had been supposed, but that many of them were of a kind to which no exception could reasonably be taken. Thus the English Conjoint Board had granted during five years 124 such exemptions, but of these no fewer than 56 were on the ground that similar examinations had been passed at the University of Toronto, and other Canadian examinations figured in the list. It is probable that very shortly the qualifications of these Canadian bodies will be fully recognized. There were other examinations recognized for exemption, the standard of which is above suspicion. Hence it was clearly not desirable to lay down a hard and fast rule that no examinations, other than those conducted by bodies whose qualifications admit to the British *Register*, should be accepted as equivalents. Many—indeed most—of the licensing bodies publish lists of examinations which they are prepared to accept as the equivalent of their own, but other bodies stand in a less satisfactory position. The Apothecaries' Hall of Dublin appears not to publish any such list, and the wording of its regulation on the subject seems to open the door to all and sundry. The explanation offered by their representative that this was due to a typographical error, and that it did not say what it meant, did not commend itself, inasmuch as this published regulation governed the practice of the Hall, and its practice had included the recognition of examinations open to much question. The importance of the matter was considered to be increased when it was found that the Apothecaries' Hall, Dublin, had granted exemptions in the cases of 59.4 per cent. of those who had obtained its qualification in the past five years—a proportion more than six times higher than that of any other licensing body. It was also recalled that the Council has already advised that the first, second, and third examinations of the Indian Subordinate Medical Service, which are accepted by the Hall, should, in the absence of evidence as to their sufficiency, be refused recognition.

The Apothecaries' Hall, Dublin.—Last November the Council referred to the Examination Committee a proposal to discontinue the reports upon the examinations of the Apothecaries' Hall, Dublin. The Committee at this session presented a lengthy review of the whole history of this body as recorded in the minutes, and followed this up by giving under the letters X, Y, and Z the complete history of the passes and rejections of three gentlemen who had recently obtained the licence of this body. It was stated that these were the only three licentiates in whose cases it had been found possible to ascertain the whole of the facts. As this report has been sent to the body for its comments, it may be better to refrain from any further comment further than to observe that *primâ facie* there seems to be a good deal to answer with respect to these three cases. The Committee seems to believe that there is evidence that in some instances a candidate has obtained a qualification from the Apothecaries' Hall, Dublin, and has then, as a registered practitioner, gone up for the separate diplomas of the Colleges of Surgeons or of Physicians, a proceeding which has met with varying success. The reports of the assistant examiners in surgery appointed by the Council will in future be confined to their own section of the examination, and an inspector is to be appointed for the whole examination. Further, the Apothecaries' Hall has been requested to send in the returns required under Section XVIII of the Medical Act, 1858, in a form containing, *inter alia*, the places and dates of the examinations passed, including such particulars as to the preliminary examination. As information upon this last point had been refused by the Hall, the opinion of the legal advisers to the Council was sought, and their reply was to the effect that the Council was entitled to ask for it. The detailed information is sought because "it is obvious that the candidates who seek this diploma are almost, if not entirely, those who have commenced their series of professional examinations elsewhere." When it is provided it will enable the Committee to trace in detail, as has been done in the cases X, Y, Z, the complete career of those who qualify. All the recommendations of the Committee were adopted by the Council.

Alleged Personation.—A curious case was brought before the notice of the Council by the Medical Defence Union in which it was alleged that a person, who appears to have made use of several aliases, had improperly and irregularly procured the entry of the name of Anthony Ciaramelli, M.D.Univ. Naples in the foreign list, had practised here in this name, and had obtained himself to be put on the London panel for six districts. Dr. Antonio Ciaramelli is a real person practising in New York, and it was proved that the person who registered here was not Dr. Antonio Ciaramelli, and Dr. Bateman, the Secretary of the Union, was thanked and complimented by the President upon the manner in which the case had been presented. The only issue before the Council was whether the name should remain upon the *Medical Register*, and the Registrar was instructed to remove it.

The Pharmacopœia.—Satisfactory progress is reported in the preparation of a new edition of the *Pharmacopœia*, though no mention was made of the date when it may be expected. The Belgian Government proposes a conference for the establishment of a bureau for pharmacopœial unification, and a delegate will be sent by the Council.

The Finances of the Council.—Owing to short sessions and to economies effected in various directions, in respect of which the Senior Treasurer paid a tribute to the zeal and success of the Registrar, Mr. Norman King, the accounts showed a surplus for 1912 of £1,105; in the previous year there had been a deficit of £1,370. It was mentioned, in estimating the future financial prospects of the Council, that the number of students registered in the year had risen to 1,397, almost exactly the average number for the past five years; it may be remembered that in the previous year there had been a material falling off. The dental fund shows a similar satisfactory result.

The Election of Committees.—Three methods of election to the several committees are in force. The Executive Committee and the Penal Cases Committee are elected by a ballot of the whole Council, the number of members taken from each Branch Council being prescribed by the by-laws. Certain other committees are elected by nominations sent in by the several Branch Councils, which meet during the session for this purpose, whilst other committees again are elected by nominations made in open Council. All members of committees are eligible for re-election, so that there is no automatic change in their constitution, and a survey of the results shows that, in fact, very little change does take place under any of the methods of election. From the point of view of continuity of action this is, no doubt, advantageous, if not carried too far, and may be taken as indicating the satisfaction of the Council with the work of its committees.

Alberta.—The Minutes of the Executive Committee contain the text of an amending Act which has been passed and assented to in the Province of Alberta. It contains some remarkable provisions. The examinations of candidates for admission to practise medicine, surgery, midwifery, osteopathy or homœopathy are to be under the control of the University of Alberta, and, except as to osteopaths and homœopaths, the subjects are to be such as prescribed by the Senate of the University, etc. A person who has, with a licence recognized by the American Osteopathic Association, practised for four months in Alberta, shall be granted a certificate, otherwise he must—and this applies to homœopaths also—pass an examination prescribed by the Senate. A person licensed to practise one class of practice incurs a fine if he trespasses upon any other class of practice. It is rather difficult to see how this proviso is to be made operative; but the whole Act seems to stand in need of revision.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

Post Office Sanatorium Society.

The fourth biennial conference of the Post Office Sanatorium Society was held in Edinburgh on May 31st. On the previous evening there was a smoking concert in the North British Station Hotel. Dr. Kenneth Douglas, medical officer to the General Post Office, Edinburgh, who presided, after welcoming the members, made special reference to the splendid work which had been done by Sir Robert Philip in the fight against tuberculosis. He regarded the creation of the Victoria Dispensary as the starting-point of the tuberculosis campaign. He thought the work of their own society had also been a great success; that done in their sanatorium was now being overshadowed by other work in the same direction under the Insurance Act, but the treatment given in it would compare favourably with that in any of the smaller institutions in the country.

At the conference, Mr. W. H. Davies (London) presided, and there was a large attendance of delegates. Sir Robert Philip gave an address, in which he stated that the society represented insurance against illness, and that illness the one that counted for most in human life. It also represented the principle of voluntary insurance against sickness; it made the benefit attractive, and so did away with compulsion, which, in such matters, seemed a doubtful policy. The society, too, had a statesmanlike outlook upon tuberculosis, recognizing that it differed from all other diseases; no two cases of tuberculosis were the same; and so the amount of treatment required for any one case was to be given, and it was not to be limited to three or four months; to limit it was a fallacious system, whilst to extend it to a year or longer, if medical opinion recommended it, was a wise policy. In their sanatorium at Benenden they had shown that tuberculosis could be treated practically anywhere within the United Kingdom, and, with satisfactory conditions, they could effect cures. The Chairman stated that the membership of the society, which in 1911 had been 47,400, was now 50,000. Mr. Durrant (the Secretary) reported that since the formation of the society in 1906, 447 cases had been treated, of whom 242 had been restored, 149 had generally improved, 46 had been discharged unimproved, and 10 had died during treatment. In a little over 87 per cent., therefore, the condition had been improved, and in more than half the patients the disease had been arrested. The admission of wives of members to the benefits of sanatorium treatment led to some discussion; the committee of management did not think it feasible, but by a small majority the conference remitted the matter back to the committee. Discussion also took place on several matters relating to treatment at Benenden, delegates who had themselves been patients there expressing their opinions. One of these matters was a resolution as to the performance of work, first light exercise and then heavy work, in order that the patients might become confident they were no longer invalids; and Dr. T. D. Lister, the consulting physician of the society, argued for obedience to medical directions on the part of the patients, otherwise the patient would be prescribing his own medicine. The resolution, which was to the effect that the working patients at Benenden Sanatorium be granted an additional half holiday each week for the purpose of taking walking exercise outside the grounds, was lost on being put to the vote. Another resolution (from Liverpool), that the time was now ripe when sanatorium accommodation situated in some place in the North of England or South of Scotland should be provided for the Post Office Sanatorium Society, and that the National Executive should make arrangements as soon as possible, was carried by 17 votes to 11.

Red Cross Demonstration in Edinburgh.

The cup, which is presented by Lord Rosebery for knowledge in practical and theoretical first aid, home nursing, and cooking, was handed on May 29th to No. 4 Midlothian (Cramond) detachment (which was represented by Dr. Stewart, Blackhall) by General Johnstone; this detachment had gained 324 marks out of a possible total of 350. The detachment which came next with 319 marks was No. 10 Edinburgh, and then followed No. 6 Edinburgh with 317 marks; eleven teams in all competed. Brigade-Surgeon Lieutenant-Colonel Arnott, M.D., said that in 1912 there were seven women's Red Cross detachments in Edinburgh with a total strength of 193, and since then there had been raised and registered two men's detachments, bringing up the strength to about 230 or 240. There were difficulties in raising the men's detachments, which would, he believed, be at once solved if the St. Andrew's Ambulance Association, after training men for ambulance work in the piping times of peace, would hand them over to the Red Cross organization for service in a national emergency, such as an invasion, for which alone the Territorial Forces and the Red Cross Society were engaged. He was glad to report that they had been promised several suitable buildings as auxiliary hospitals, among which was the School of Domestic Economy, Atholl Crescent. Colonel Woodhouse, President of the Judging Committee, was thanked for the great interest he had shown in Red Cross work in Edinburgh.

Local Government Board for Scotland.

Dr. Ernest Watt, M.D.Glas., D.P.H.Camb., has been appointed an additional medical examiner of the Local Government Board, in consequence of the increased work thrown upon the Board by the National Insurance Act. Miss Mary Jennie Menzies, M.B., Ch.B.Edin., D.P.H., R.C.P.S.Edin. and Glas., has been appointed lady medical inspector in place of Miss Elizabeth M'Vail (resigned).

Local Government Board Report.

The eighteenth annual report of the Local Government Board for Scotland, dealing with the year ended December 31st last, has recently been issued. It is stated that during the year, notwithstanding the exceptionally prosperous condition of the country, there was an increase of pauperism. Parish councils, stimulated by the economy of the rates secured by old age pensions, had pursued a more generous policy, but the increase might only be a reflex of the coal strike in the early months of the year. The Board did not consider that there had been any laxity in the administration of Poor Law funds, and was, indeed, convinced that the large measure of public attention the Poor Law had received during recent years had had a marked effect in improving the quality of the work done by the relief authorities. The number of poor of all classes, including dependants, in receipt of relief on May 15th, 1912, was 107,498, of whom 91,137 were sane and 16,361 lunatic. On the corresponding date in 1911 the number was 106,251. The increase of 1,247 represented a ratio per 1,000 of population of 23 in 1912, as against 22 in the previous year. The increase in the number of children separated from their parents was general all over the large town parishes, and was, no doubt, mainly due to the enforcement of the provisions of the Children Act of 1908. The ordinary receipts of the various parish councils amounted to £1,593,779. Of this sum, the expenditure on poor relief was £1,545,720 in the following proportions: Sane poor, outdoor, 37.75 per cent.; indoor sane poor, 24.37 per cent.; lunatic poor, 28.02 per cent.; and general administration, 9.86 per cent. Excluding general administrative charges—which cannot well be allocated—the cost per head of poor, including vagrants, worked out, on the basis of the number chargeable at May 15th, at: Sane poor, outdoor, £7 10s. 8d. a head; indoor sane poor, £27 10s. 10¼d.; and lunatic poor, wherever situated, £26 9s. 4¾d. The general administrative charges amounted to £1 8s. 4¼d. a head of poor of all classes. The Board had sanctioned plans for a home which the Edinburgh Parish Council is erecting for the accommodation of young children, and for a home the Glasgow Parish Council is erecting for physically defective young persons over school age who are likely to be permanently chargeable to the parish. The report states that there is ample evidence of the ever-increasing interest taken by local authority and the public generally in the Housing Acts. So far as Scotland is concerned the Act consists mainly of two parts—(1) the housing of the working classes, and (2) town planning. The one may be said to deal with slums already created; the other empowers local authorities to deal with the prevention of slums. Particulars are given of action taken or proposed to be

taken at Rosyth, Dundee, and Edinburgh. The Board is giving particular attention to the subject of water supplies throughout the country, and the report discusses also the question of the treatment of insured persons suffering from tuberculosis, and the notification of pulmonary tuberculosis and administrative control.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

TESTIMONIAL TO DR. PHILIP G. LEE, CORK.

ON May 24th a largely attended meeting of the medical profession was held at the rooms of the Cork Medical and Surgical Society, when Dr. Lee was presented with a handsome bookcase, a solid silver tray, and a purse of sovereigns, subscribed for by the medical profession of the city of Cork, by the members of the Munster Branch of the British Medical Association, and by those of the Irish Medical Association residing in County Cork.

The presentation was made by Dr. Cotter, chairman of the medical profession in Cork, who said he had great pleasure in having been chosen as the medium to make this presentation on behalf of his colleagues. He spoke of the very many skirmishes Dr. Lee had been through during the past twenty years, fighting for the profession in the battle of clubs, and how he had always emerged with credit and upheld the dignity of the profession. Having referred to the great debt of gratitude owing to him, Dr. Cotter concluded by hoping that Dr. Lee would long continue to act as their able honorary secretary.

Dr. Lee, in returning thanks, said that everything he had done was with the one and only object of keeping his profession to the standard, or even a higher standard, that was set for it by their forefathers. He had therefore worked hard in the battle of the clubs in Cork, where work had been done that was not done elsewhere. The position of honorary secretary to the profession was one congenial to him, but their tribute to his endeavours was indeed too great. He concluded by saying that he would continue to work heartily in the future, and that this testimonial was regarded by him as the greatest honour he had ever received. It would be treasured by him, and by those whom he should leave behind.

On the tray was inscribed:

Presented to Dr. Philip G. Lee by the medical profession in Munster as a token of their appreciation of his invaluable services as honorary secretary for over twenty years. May, 1913.

LUNACY AND POPULATION.

During the Chief Secretary's recent visit to Ireland a deputation waited on him in connexion with a proposal to convert the Castlebar Prison into a department of the lunatic asylum. It was pointed out that since 1866 the population of the Castlebar Asylum had been slowly but surely increasing, and while the insane population was growing larger the ordinary population was steadily decreasing. In forty years the population of Mayo had fallen from 236,150 to 190,205, and at the same time the pauper lunatics in Castlebar Asylum had increased from 200 to over 800. Since 1890 the county had borrowed £55,052 to provide additions to the asylum, but despite this there were in the asylum 160 patients in excess of the accommodation the institution was intended to provide. The Asylum Committee and the county council were reluctant to incur any further liability in making additions, and it was suggested that the most businesslike way of dealing with the matter would be to ask the Irish Government to close the Castlebar Prison, which adjoined the asylum, and to make arrangements for its conversion into a department of the asylum. The Chief Secretary promised to give the matter his careful consideration.

TYPHUS FEVER.

At the last meeting of the Castlerea Board of Guardians the medical officer of the workhouse reported that a family from Ballaghadereen had been admitted to the workhouse hospital suffering from typhus fever. The family consists of twelve persons; the house of this family has been disinfected and closed.

MEDICAL OFFICERSHIP OF ACHILL.

At the last meeting of the Westport Board of Guardians a letter was read from Dr. T. H. Croly resigning his position as medical officer for Achill No. 1 Dispensary District owing to ill health after thirty-six years' service. The resignation was accepted with regret, and it was decided to advertise the appointment, and to consider Dr. Croly's superannuation allowance five weeks hence.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

NEWCASTLE-UPON-TYNE.

ROYAL VICTORIA INFIRMARY.

Presentation of Addresses to Professors Drummond and Sir Thomas Oliver.

AT a crowded quarterly court of governors of the Royal Victoria Infirmary, held on May 29th, illuminated addresses were presented to Professors Drummond and Sir Thomas Oliver on the occasion of their retirement from the active staff—the former after thirty-four years' service and the latter after thirty-three. In the absence of the Chairman of the House Committee, Sir George Hare Philipson, who was attending the meetings of the General Medical Council in London, Sir Riley Lord presided. Addressing Dr. Drummond, the Chairman said that only once previously had his period of service as a physician been exceeded, and that was by the late Dr. Thomas Emerson Headlam, who had been connected with the infirmary for thirty-eight years. Dr. Drummond's association with the infirmary had been distinguished by faithful attention to duty and a careful observance of official responsibility. By distinctive ability and diagnostic acumen he had attained to a position of eminence in his profession and had maintained the traditions of the infirmary. In acknowledging the gift, Professor Drummond said that it was with mingled feelings he accepted the handsome expression of their kindness, for to the pleasure and gratitude was added the feeling of regret that the time had come when under statute he must relinquish his connexion with the active staff. For the moment the latter feeling outweighed the former. He had loved his work in the wards and he had appreciated the honour and privilege of having been connected with the office to which they had appointed him nearly thirty-five years ago.

The address to Professor Sir Thomas Oliver was framed in similarly eulogistic terms. It paid a tribute to his reputation as a scientific physician and to the investigations he had made as to the effects of industry on health, thus proving himself to be a benefactor to the industrial community. Sir Thomas Oliver thanked the chairman and governors for their kind appreciation of his services, and said that he thought the time had arrived when, for those who were to follow him in the infirmary, some alteration should be made in the retiring age limit or means taken to make the retirement more gradual by giving the physicians and surgeons five to ten beds, as was the practice in other large hospitals. It would be a distinct advantage to the institution itself, a gain to the teaching capabilities of the school, and not a disadvantage all round from a financial point of view. Sir Thomas spoke of the advances made by medicine and surgery during the last thirty-four years and of the changes which had come over the infirmary during that period. Of those who became his colleagues on his appointment only Sir George Hare Philipson, Dr. Hume, and Professor Drummond remained. He had appreciated much the honour which had been his of having been a member of a medical and surgical staff which had kept itself well abreast of the times, had been a good follower, and in not a few instances had led the way. It was to him a deep regret that the tie which had bound him to the infirmary for a third of a century must now be broken. He closed his speech with the consolatory remark that it was better to have been connected with that great infirmary and to bear the pang of separation from it, to have been privileged within that building to do something for the amelioration of the sufferings of one's

fellow men, even to have failed to attain to the ideal which, in the early part of his career as a young physician, he had set before him than not to have been connected with the infirmary at all and never to have attempted to reach the goal.

Both retiring physicians become consulting physicians to the infirmary. In this capacity—which gives them a seat on the monthly committee—it is hoped that they will still be able to exercise an influence on the affairs of the institution.

Pathological Chemist to the Infirmary.

Professor Bedson of the Armstrong College, on his retirement from the position of pathological chemist to the infirmary, was made an honorary life governor of the institution. It is desirable that services such as his should be recognized by his being made in addition consulting pathological chemist.

Tynemouth Infirmary.

At the Tynemouth Victoria Jubilee Infirmary, North Shields, on May 31st, a large and representative gathering assembled, when the Mayor of Tynemouth handed over to the infirmary, on behalf of the town and as a memorial to the late King Edward, a new operating theatre, fully equipped, built in the newest style, and on the most approved methods. The mayor paid a well-deserved compliment to the honorary medical and surgical staff. Sir Thomas Oliver, who was present as the invited guest and who, it appeared, had been associated with the Tynemouth Infirmary movement at its inception thirty years ago, gave an address, for which he was thanked by Dr. L. Fraser, one of the senior members of the staff, and also by the vice-chairman of the institution.

BIRMINGHAM.

Memorial to the late Professor Jordan Lloyd.

In response to a very general desire that something should be done to perpetuate the memory of the late Professor Jordan Lloyd, who was a Joint Professor of Surgery in the University of Birmingham, and who was for thirty years honorary surgeon to the Queen's Hospital, a fund has been opened by the committee of the hospital, who are appealing for a substantial sum towards the endowment of a surgical ward in the Queen's Hospital. The ward will be called the "Jordan Lloyd Ward," and it is proposed to place either a bust or a portrait of Professor Jordan Lloyd in the ward. The first list of contributions which is printed in the appeal that has been issued amounts to about £1,400. An appeal signed by Dr. Douglas Stanley, its chairman, is made by the Medical Committee to members of the medical profession in Birmingham and the Midlands, and to those who worked with Mr. Jordan Lloyd and feel that they owe much to him as a teacher. Contributions should be sent to the treasurer of the Queen's Hospital, Mr. H. F. Keep, and the secretary will be pleased to forward a copy of the appeal on application.

Sanatorium Extension for Consumption.

The new scheme for the extension of the sanatorium accommodation for consumptives is to be presented to the Local Government Board as a whole. It is proposed to add to the Salterley Grange Sanatorium châlets for twenty patients, at an estimated cost of £1,703. At West Heath Hospital 22 additional beds are proposed, at a cost of £842. The extension of Yardley Road Sanatorium will provide for 142 additional beds, at an estimated cost of £28,512. When the extensions are completed the total accommodation will be 319 beds, of which 54 are for children, leaving 265 for adults. There are 90 beds reserved at Romsley, so that the total will be 355 for adults and 54 for children. It is difficult to state accurately the number of tuberculous persons in the city of Birmingham, but the Health Committee believe they exceed 10,000.

A definite undertaking has been received that a sum of £90 a bed, or three-fifths of the cost, whichever is least, will be contributed by the Local Government Board towards the capital cost. When the scheme is regarded as a whole it appears that £90 a bed is less than three-fifths of the total cost, for calculated on that basis the total grant will amount to £16,560, which leaves a sum of £14,497 to be found by the corporation.

The cost of maintenance can only be approximately estimated. Assuming that 95 per cent. of the beds are continuously occupied and the weekly cost of each bed for adults averages £1 7s. 6d. and for children £1, the total annual cost, including interest and sinking fund, will be about £26,700. The cost of the tuberculosis centre in Broad Street, including salaries of medical staff, tuberculosis visitors, etc., is estimated at about £5,000, so that the total expenditure of the corporation, when the scheme is in full working order, will be about £31,700 a year. The Local Insurance Committee will contribute at least £10,000 towards this annual expenditure. Representations as to the heavy burdens likely to be cast upon the corporation were made by various public bodies to the Local Government Board and to the Chancellor of the Exchequer, and in December last a circular-letter was issued by the Board announcing the decision that, in respect of schemes which included the treatment of insured persons and persons who were not insured, the Exchequer would pay half the cost of treatment after the receipts from the Local Insurance Committees had been taken into account. The position is therefore as follows:

Cost of sanatorium treatment	£26,700
Cost of dispensary treatment, including cost of tuberculosis visitors	5,000
Total cost ...	31,700
Less payment from Local Insurance Committee	10,000
Contributions from Government	10,850
	20,850
Cost to be borne by Corporation	£10,850

During the financial year 1911–12, before the Insurance Act came into operation, the expenditure on tuberculosis amounted to £9,635, and this expenditure maintained only 90 beds. When, however, the new scheme is in operation, there will be 409 beds, and the dispensary work will be much increased, but the annual cost to the corporation will not be much more than formerly. For the present year, when only a portion of the proposed additional accommodation in the Corporation sanatoriums and at Romsley Hill will be ready for use, it is estimated that the total cost of maintenance will amount to £21,831. There will be about £10,000 to come from the Insurance Committee and £5,915 from the Government, so that for this year the corporation will be expending considerably less than in the previous year and will be treating a much larger of patients.

MANCHESTER AND DISTRICT.

The Manchester Scheme for Treatment of Tuberculosis.

After numerous changes and modifications, the scheme developed by the Sanitary Committee of the Manchester Corporation for dealing with cases of tuberculosis has been approved by the Insurance Commissioners, the Local Government Board, and the Treasury, as well as by the Manchester Insurance Committee. It has now received also the full approval of the Finance Committee of the Corporation. Dealing with the financial side of the question the Finance Committee shows that the total annual expenditure will be £41,612. Towards this the Insurance Committee will contribute £9,175. Of the remainder the Treasury will contribute one half, and, after deducting charges for treatment, the total additional charge on the rates will be £9,987, which is equivalent to a rate of 0.557d. in the £, that is just over a halfpenny rate. The Finance Committee points out that as a set-off against this there is a saving of about £7,000 in connexion with the transfer of fever patients from Baguley to Monsall. Certain other charges will, however, be increased, so that the net increase in the expenditure of the corporation will be £5,596, part of which is due to the increased expenditure in connexion with the notification of tuberculosis. The scheme provides for the following:

1. The use of the existing Hardman Street Dispensary of the Manchester Consumption Hospital.
2. The purchase of land in Hardman Street from the Board of the Consumption Hospital for the erection of new offices.
3. The enlargement and furnishing of the Baguley Hospital as a sanatorium, in which a new block with 100 beds will be provided for men, and a block with 50 beds for women.

4. The provision of new wards at Monsall Hospital for cases of fever hitherto treated at Baguley.

5. Purchase from the South Manchester Board of Guardians of the Abergele sanatorium.

The total capital outlay is £78,645, from which the Treasury grant of £22,500 is to be deducted, leaving a balance of £56,154, and the Sanitary Committee recommends that the Local Government Board be asked to sanction the borrowing of this amount.

Dr. Niven, the medical officer of health, has submitted a report on the scheme, the essential features of which he says are the establishment of a central dispensary and a linked system of treatment partly by private practitioners, partly at the dispensary, and partly at the Baguley, Crossley, and Abergele Sanatoriums. At the Hardman Street Dispensary it was originally intended to utilize the services of the five physicians each at a salary of £250 a year, but as one of them has retired, his place will be taken by a whole-time tuberculosis officer at the same salary. Besides attending to the patients at the dispensary, these five officers will act as consultants to private practitioners, and will visit Crossley Sanatorium once a month, and the Baguley Sanatorium as may be necessary. Eight nurses are also provided to visit the homes of patients. In addition to the whole-time officer replacing one of the physicians of the Hardman Street Dispensary, there are a senior whole-time tuberculosis officer at a salary of £500 and three juniors at salaries of £300. Thus the whole staff is composed of five whole-time officers, four part-time physicians, and in addition there are to be eight nurses, two clerks for the medical department, a secretary, a dispenser, a dentist, a general clerk, and two nurses at the dispensary. The services of an *x*-ray expert will be obtained as required. It is provided that fifty-four hours of treatment shall be given at the dispensary each week, and in this way it is expected that 378 cases will be seen in a week, and that, as on the average each case will be seen only fortnightly, 756 cases will be kept under treatment. In addition, the whole-time officers will give eight attendances a week of three hours each, which means that they can attend to 336 cases. Thus provision is made for continuous treatment at the dispensary of about 1,100 patients.

The Finance Committee having examined the scheme fully, now recommends the City Council to adopt it at its next meeting.

LONDON.

London County Council.

Inquiry into Atmospheric Pollution.

The General Purposes Committee on June 3rd recommended the London County Council to set aside £100 for an inquiry as to suspended impurities in the atmosphere in London. The report reminded the Council that the Committee for the Investigation of Atmospheric Pollution appointed at the International Exhibition and Conference held in London in 1912 directed attention to the lack of co-ordinated effort in estimating the distribution of suspended matter in the air, and the absence of reliable data indicating the effect of smoke prevention in atmospheric purification and diminishing the frequency of fogs. Among the municipalities which had agreed to set up apparatus and take observations were those of Birmingham, Glasgow, Hull, Leeds, Newcastle-on-Tyne, Plymouth, and York, and the General Purposes Committee was therefore of opinion that the co-operation of the Council should be afforded. The estimated cost of each instrument and the analysis of deposit was £21 for the first twelve months and a subsequent annual expenditure of about £12 for each instrument. Six instruments would prove adequate, at any rate in the early stages of the inquiry.

The estimate of £100 was approved.

The Milk and Dairies Bill, 1913.

It was urged in a report submitted by the Public Health Committee that the Milk and Dairies Bill, 1913, introduced into the House of Commons by the President of the Local Government Board involved the loss or curtailment of many powers for dealing with infected milk already possessed by the London County Council. In particular the Committee objected that the power of taking samples of milk and of examining cows outside London was entirely lost under the bill. The necessity for the thorough and systematic inspection of the sources of London's milk supply was shown by the fact that since July 1st, 1908, no fewer than 2,187 visits had been made by the Council's inspectors to farms outside London, 59,616 cows had been inspected, and the supply to London from 642 cows suffering from tuberculosis of the udder had been stopped. The inspectors now had special knowledge, and a register of the sources of supply had been compiled which was of great assistance in carrying out this protective work. Instead of this efficient machinery entirely under the Council's control, it was proposed that the protection of the milk supply of London should be distributed amongst various authorities throughout the country, which had no direct interest in the matter. It was a mistake, also, in the opinion of the Committee, to delegate to the twenty-nine borough councils such powers as remained to London in this connexion. A register such as that on which the efficient administration of the work largely depended could not be compiled and maintained by twenty-nine authorities without overlapping of effort. The Local Government Committee stated that the allocation of powers proposed by the bill, coupled with the repeal or curtailment of some of the Council's existing powers, would seriously affect the position of the Council as the central public health authority for London. These provisions appeared to be inconsistent with the declared wish of the Local Government Board that the Council should act as the central authority for London in the matter of the treatment of tuberculosis, and would render more difficult the preparation and organization of a comprehensive scheme to deal with that matter. The committee considered that the bill should provide for a clear division of duties between the Council and the sanitary authorities in London so as to avoid overlapping, duplication of administrative machinery, and unnecessary expense to local authorities.

The Council postponed consideration of the report.

The National Health Society.

The annual meeting of the National Health Society, at which the Duke of Devonshire presided, was held at Grosvenor House last week, when Princess Christian of Schleswig-Holstein presented the diplomas, medals, and certificates of the society to the successful candidates. A vote of thanks to the Princess was proposed by Sir James Crichton-Browne, who said that at the Hygienic Congress held in Paris ten days ago, M. Ribot, who was no mean authority on the subject, took a very alarming view of French vital statistics. The country was sick, he said, and the French race was withering away, for the consumption of alcohol and the neglect of hygiene were decimating the population. Happily the state of this country was not quite so bad, for the English death-rate was only 14 per 1,000 instead of 18 or 19 per 1,000, as in France. But the death-rate afforded no sure criterion of a nation's health. In the elementary schools only 25 per cent. of the children had sound teeth, 30 per cent. suffered from some defect of the eyes, and 4 per cent. from rickets; whilst no fewer than 80 per cent. were infected with tuberculosis. Moreover, there were 50,000 children in England who were mentally defective, and the number of lunatics was steadily increasing. To these grave symptoms must be added another—the comparative lack of intellectual vigour and the impairment of public spirit owing to the absorption of Englishmen in their own personal affairs, particularly in money-making and motoring, to the neglect of their vital interests, such as national defence. The medical inspection of school children was doing much to counteract the evil, but to have any lasting effects the work should begin at home. It was into the home that the National Health Society was carrying the lessons of hygiene, and it was thereby doing an inestimable service to the country. The motion was seconded by Sir E. Ray Lankester and carried unanimously.

India.

[*FROM OUR SPECIAL CORRESPONDENT.*]

The King Edward VII Memorial Sanatorium at Lotni.

The memorial to the late King Edward VII raised by the people of the United Provinces took the form of a sanatorium which was erected at Lotni at an altitude of

6,000 ft. on a site presented by His Highness the Nawab of Rampur. It commenced work in 1912, and the arrangements made permit of the reception of both paying and non-paying patients, natives and Europeans, male and female, and the building when quite complete will provide accommodation for 50 patients. Its superintendent, Major A. W. Cochrane, I.M.S., reports that the first patient arrived for treatment on May 17th, 1912, and that before the close of the year 54 patients had been admitted and 17 remained under treatment at the end of the year. The treatment usually consisted in generous diet, regulated exercise, and tuberculin injections. Nearly two-thirds of those admitted were already in the third stage of the disease (Turban), and so very good results could not be expected. Excluding 6 who stayed less than a month, they were as follows: 1 died, 6 left not improved, 5 improved, 7 much improved, and in 11 the disease was regarded as being arrested. Better results would probably have been obtained if patients had remained longer under treatment, but Orientals are impatient. Though the climate is damp and chilly the patients did not suffer from colds. The institute is supported by the memorial fund and a grant of Rs. 12,000 a year by the local government. Rs. 2,713 were received from paying patients.

ADVANCED SCIENCE IN THE PUNJAB.

The foundation of an advanced science research institute is suggested to commemorate Sir Louis Dane's governorship in the Punjab. It is proposed that the Punjab contribution of over five lakhs to the All-India Moslem University Fund should be reclaimed and devoted to this institute.

OFFICERS' FAMILIES' HOSPITAL FUND.

At a meeting of the committee of Lady Grover's Fund for officers' families' hospitals in Simla on May 2nd the annual report for the past year was considered. During the first year of the fund's existence 416 officers joined it and 6 ladies obtained the benefits the fund is intended to provide. The fund secures admission to a nursing home in London on payment of £2 10s. a week, the difference between that sum and the amount actually charged by the home being paid by the fund. The committee has now decided to extend the benefits of the scheme, as far as funds permit. It has been represented that ladies may not always find it convenient to go to London for treatment, and are thereby debarred, under existing rules, from obtaining any advantage from the fund. To meet such cases, and as a tentative measure, it has been decided to contribute a sum not exceeding £2 10s. a week to the expenses of those ladies who go into nursing homes in the British Isles outside London. Application for this assistance should be made to the Honorary Secretary of the London Committee, whose address is 21, Neville Street, Onslow Gardens, London, S.W., and must in every case be supported by a copy of the bill. The decision of the London Committee as to the amount of assistance given, being dependent on the founds available, will be final. Another innovation is the adoption of the system of regimental subscriptions at reduced rates. It has been decided that a regiment may subscribe for the wives of its officers at the rate of Rs.20 for three ladies, Rs.40 for six, and so on. Each subscriber under this rule will secure for his family the benefits of the fund for a calendar year from the date of subscription, whether he remains with his regiment or is transferred to any other form of employment. The fund was always open to regimental chaplains of the Church of Scotland serving with units in India, and has now been extended to all chaplains of the ecclesiastical establishments shown in the Indian Army List and to officers of the Royal Indian Marine.

PILGRIM SANITATION.

The Government of India has seriously taken up the question of the sanitation of pilgrims. Colonel Robertson, I.M.S., Sanitary Commissioner with the Government of India, accompanied by a small committee, has completed a tour of places of pilgrimage in the United Provinces and Bihar and Orissa. He will visit similar places in Bombay in July, and from the Western Presidency he will proceed to Madras. In all the provinces he will be associated with special provincial committees. On completion of his visits to the various parts of India he will submit a report to Government.

Special Correspondence.

PARIS.

Treatment of Sleeping Sickness.—Facial Hyperaemia.—Ether Cleansing of the Peritoneum.

DRS. TANON AND DUPONT have given a brief sketch of their work, experimental and clinical, in the treatment of sleeping sickness, to the Medical Society of the Hospitals. They employed the new arsenical compounds of Mouneyrat, 1116 and 1151. The trypanosomes disappeared from the human blood in three hours after a dose of 0.001 gram per kilo body weight; in other words, a man weighing 65 kilos (143 lb.) would require 0.065 gram as a dose. After four doses the cure appeared to be complete in cases in which the nervous centres had not already been attacked. In experiments on mice, monkeys, rats, and kids complete destruction of the organisms was observed in all the phases, not only in the blood, but also in the lymphatic glands.

To the same society Drs. Jacob and Debat made a communication regarding the treatment of facial erythrosis by gymnastic exercises of the facial and cervical muscles. They found the method most useful in subacute and chronic skin diseases of the face and scalp and of value in the treatment of flushing of the face, whether physical, post-prandial, or from other nervous cause. The muscles controlling the movements of the scalp, forehead, ears, alae nasi, and the face in general should be made to contract regularly and rhythmically for five minutes several times daily.

At a recent meeting of the Surgical Society a communication was made by M. Tesmain regarding the favourable results obtained by cleansing the abdominal cavity in peritonitis with ether. M. Anvey reported a case of hernia with localized peritonitis in which he had cleaned the abdominal cavity with one litre of ether. The patient made an excellent recovery, and no signs of peritonitis occurred. M. Souligoux confirmed the excellent results obtained with ether in the cleansing of the abdomen in peritonitis.

Correspondence.

ACUTE MENTAL HOSPITALS AND PSYCHIATRIC CLINICS.

SIR,—In your leading article on psychiatry and the general hospitals, published in the JOURNAL for May 17th, you convey an impression in regard to the present mode of dealing with the insane in this country which, I think, so far as the modern asylums are concerned, is erroneous, and ought not to pass unchallenged. In several of the modern asylums in England we have hospitals for the treatment of acute insanity. Seventeen years ago I read a paper on the hospital treatment of the insane before the Psychiatric Section of the Association at the annual meeting at Carlisle, in which I advocated the institution of acute hospitals, in conjunction with the existing asylums, for the treatment of the insane, and I suggested the desirability of separating the acute recoverable cases in order to overcome "the indiscriminate herding together or massing of mad folks in huge barracks" which, I agree with you, "does not place them in a condition favourable to recovery." Fifteen years ago, on being appointed superintendent of the new asylum at Bexley, I was enabled to put my suggestions into operation; and we have at this asylum two acute hospitals, one for each sex, which are conducted on hospital lines, and in which the cases of acute insanity receive that individual study, care, and treatment which it is impossible to give in the large wards of a barrack asylum.

The staff in these hospitals is large, the proportion of nurses to patients being double that in the wards in the main building, and the patients receive the services of the most experienced of the medical staff. The hospitals are fully equipped, so that all the modern methods of treatment can be carried out. The bulk of the recoverable cases are treated to convalescence in these hospitals, and are discharged from the institution, never having been

associated with the general body of the patients except at the entertainments. Each acute hospital stands in its own grounds, surrounded by gardens with extensive lawns, with no restraining fences of any kind, so that that prison element of ordinary asylum life is entirely absent.

I should like to say in addition that we have a well-equipped laboratory for both clinical and original research.

The success attending these methods in this institution led to the provision of acute hospitals in the asylums of London, which have been since built at Horton and Long Grove, and the new asylum which is being projected, the plans of which are in an advanced state of preparation, will also be similarly provided. The principle has also been carried out in many of the new asylums which have been erected by other counties and boroughs in recent years.

I am absolutely in agreement with that portion of your article which advocates the formation of psychiatric clinics in this country on the lines of those at Munich, Leipzig, Berlin, Giessen, and the Johns Hopkins Hospital at Baltimore; but I am doubtful of their success in rate-supported institutions and with our present lunacy laws. Not all counties and boroughs could run psychiatric clinics in conjunction with their asylums, but it would be an easy matter for them to provide acute hospitals.

It is a great pity that these existing institutions, furnished with such abundant facilities for psychiatric study, should be situated so far from the teaching centres, which naturally militates against their working in direct co-operation with the medical schools; and by the same reason the institutions are deprived of the advantage and the stimulus which would result from closer association with the other specialized branches of medicine.—I am, etc.,

T. E. KNOWLES STANSFIELD.

London County Asylum,
Bexley, Kent, May 28th.

EVIDENCE FOR AND AGAINST TUBERCULIN.

SIR,—As a matter of courtesy I should like to reply to the questions put to me by Dr. J. W. Allan (May 24th, p. 1140), though I still think that the reasons why one series of cases cannot be employed as a control and left entirely to Nature are obvious. The function of a physician is to heal or, at all events, to endeavour to do so to the best of his ability. It is in order to be assisted as individuals that patients come to us, and I think we are not entitled, without our patient's consent, to abrogate our function of healing or potential healing even for such a desirable object as Dr. Allan has in view—the attainment of more precise knowledge as to the value of our therapeutic weapons. If the position were put clearly before the patient and his friends, and he consented to be used in this way for the benefit of the race, well and good. But would he consent? I suggest that in such circumstances the material for a control series would be lacking.

With regard to the real good which, I think, results in some cases from appropriate doses of tuberculin, I quite admit that my favourable impressions have been based mainly upon increased energy and capacity for work where work had previously been out of the question, on returning relish for food where appetite had been indifferent or bad, on a feeling of well-being and brightness where malaise and a certain degree of mental depression had been the rule, on stationary or increasing weight where weight was being lost prior to this form of treatment.

In a number of cases there was no doubt whatever as to the pulmonary lesion having become quiescent. But without the slightest desire to disparage the value of routine chest-examinations, I cannot refrain from suggesting that a symptom-complex of this kind is generally of more value as an index of improvement than auscultatory or percussion phenomena in a condition where *restitutio ad integrum* is impossible. I may add that, in my experience, some patients who were immunized rapidly presented a striking improvement in appearance, especially as regards anaemia, and that in some of them I have been able to satisfy myself that Löwenstein's observation of increased phagocytosis in the sputum is correct.

I do not wish to engage in any controversy on the curability or otherwise of bovine tuberculosis, as I have no practical knowledge of the subject, but I should like to ask whether Dr. Shaw's facts do, as a matter of fact, "deal a staggering blow to the tuberculin propaganda"? Dr. Shaw himself asks: "Is it not a certainty that, if bovine tuberculosis could be cured by the use of tuberculin, its use for such purposes would be world-wide?"

If active immunity were as easily secured as passive immunity is in the case of diphtheria, for example, we might safely reply to Dr. Shaw's question in the affirmative. But it is well known that the elaboration of antibacterial substances in the blood in response to infection, or in response to the inoculation of bacterial vaccines, varies within wide limits in different individuals, and that the success of such a method of treatment depends largely upon a correct adaptation of dose to individual requirements.

It appears to me doubtful whether a cure (assuming tuberculin to be a cure) for tuberculous cattle which involved skilful manipulation of doses over a long period could justify itself commercially; and in this instance universal adoption of such therapy would be, I think, contingent solely upon commercial considerations.—I am, etc.,

J. STAVELY DICK,
Honorary Clinical Pathologist, Northern Hospital.

Manchester, May 26th.

INTRAVENOUS INJECTIONS OF IODOFORM IN PULMONARY TUBERCLE.

SIR,—In your issue of May 24th there is a report of the discussion at the Royal Academy of Medicine, Ireland, on this subject on April 4th.

As the introducer of this method, will you allow me to protest against Dr. J. B. Coleman confusing it with two other methods of which I know nothing, and condemning it—obviously without trial—along with these? I refer to the intramuscular injection of iodoform benzoyl chloride and the intravenous injection of half-grain doses of iodoform followed by tuberculin and vaccines.

Iodoform is of no use in pulmonory tuberculosis unless injected intravenously, and to condemn it because when injected intramuscularly along with another powerful body the results are unsatisfactory, or because it fails in association with tuberculin and vaccines, is curious. Dr. Coleman retailed the toxic properties of iodoform and the supposed dangers of intravenous injections. Has he ever had a personal experience of either? If so, it is strange that during all the years I have used it I have never met with them. Dr. Coleman objects to any one using any drug unless he is conversant with its chemistry and mode of action. Can he throw the smallest beam of light on the chemistry of tuberculin or vaccines further than that they are proteins whose molecules are very complex and of enormous weight relatively to a simple body like iodoform? To combine iodoform with tuberculin and vaccines in the treatment of phthisis and after failure to lay the whole blame on iodoform is really doing it too much honour.

Is there any higher court of appeal in medicine than the patients who recover by a particular treatment? But the iodoform treatment is not entirely wanting in laboratory support. Dr. C. H. Higgins, of the Biological Laboratory, Ottawa (Department of Agriculture, Canada), voluntarily wrote to me that he had inoculated rabbits intralaryngeally with virulent bovine tubercle, and after an interval of twelve days had treated them with intravenous injections of $\frac{1}{10}$ grain of iodoform for some weeks, and saved them—a result, to quote his own words, "unique in his laboratory experience." One was afterwards killed, and the necropsy showed wide tuberculous disease; sections were made and stained. No tubercle bacilli were found, and only fresh scar tissue.

That iodoform has toxic properties we all know, and so have nitroglycerine, strychnine, morphine, etc., in much smaller doses than iodoform, yet he surely does not condemn these! But the most serious indictment of Dr. Coleman's paper is that he grounds the whole of his attack on iodoform, and not on the ethereal solution, which is totally different. Iodoform is a very stable body, but the ethereal solution is very unstable, decomposing rapidly and liberating free nascent iodine under the influence of light in the presence of oxygen or moisture. Freshly prepared it is pale straw coloured, but if exposed to sunlight it becomes as dark as the liniment of iodine in a few minutes. In the *Transactions* of the Edinburgh

Medico-Chirurgical Society for 1905, and the *Glasgow Medical Journal* for 1911, a theory as to its possible behaviour in the body is in print, so no need to occupy space by recapitulation here.

I have injected myself with an ethereal solution of iodoform, and let others do it to me. Professor Mathew Hay of Aberdeen, at the hospital here, has seen me give intravenous injections, and deliberately inject some air along with them to demonstrate that a little air is an absolutely negligible affair. In point of fact, a considerable quantity causes no symptoms whatsoever. This disposes of one imaginary risk. I have never known embolism to occur, although I have given thousands of injections. Thrombosis does occur, but is due to the operator's want of dexterity, and is only of importance in so far as it blocks the vein and cuts off one of the channels for administering the treatment. I have never seen iodoform poisoning. If it occurs it is due to an error in the dose or in the frequency of repetition. If there is no truth in the iodoform method, it will soon die; if there is, it will survive till superseded by something easier and better.—I am, etc.,

Dunblane, N.B., May 23th. THOMAS W. DEWAR.

THE INTERNEURONIC SYNAPSE IN DISEASE.

SIR,—In thinking about hysteria in relation to possible synaptic disorder I did not overlook the fact that considerable analogy existed between the major symptoms (so-called) of that disease and epilepsy, which Dr. Yates points out, but the two affections are, I think, sufficiently (in the main) differentiated by their sex incidence.

We see hysterical evidences vastly more often amongst women than men, and feminine sensitiveness, address and intuition, rapidity of perception and jumping at conclusions, often wrong, would seem to indicate generally a very free synaptic conduction in that sex. The hysterical temperament and the major symptoms met with in hysteria are not one and the same thing; the latter are interesting phenomena occurring in individuals who possess abnormal nervous systems, and in my article I was referring more to this abnormal system than to the major symptoms.

Janet's theory, to which Dr. Yates refers, practically resolves itself into a solution of personality; to quote his words, this "tendency to the dissociation and emancipation of the systems of ideas and functions that constitute personality" might be explained by the abnormal, vague, and eccentric effects produced on the cortical centres which constitute such personality as a result of too diffuse and too intense stimulation, too little limitation to definite tracts, of given stimuli, producing a chaotic, indeterminate, and wholly abnormal ultimate consciousness. With regard to the major phenomena, it has to be recollected that relatively increased local synaptic resistance may of course result as a consequence of fright, etc., in an individual whose associative synapses generally presented abnormally little resistance to the passage of the impulse, and short-circuiting may shut out of association a large area.—I am, etc.,

County Asylum, Stafford, May 20th. B. HENRY SHAW.

THE FORM AND POSITION OF THE STOMACH.

SIR,—I quoted Dr. Barclay's expressions, "half-way down the stomach," "the lowest part of the organ," and "the middle of the body," from his writings in the *Medical Chronicle* and not from his letter of May 3rd. The source of the quotations was quite clear.

If Dr. Barclay cares to read again my papers published five years ago, he will find all the spasmodic contractions to which he has recently drawn attention already described there, and depicted in Cunningham's diagrams and my *x*-ray pictures. As I said in my last letter, I think Dr. Barclay and I agree as to the findings by *x* rays, but differ in our interpretation thereof. We agree that one of these contractions occurs frequently at the junction of the cardiac and pyloric portions. The collection of fibres so contracting I have called the "middle sphincter," for brevity's sake and for want of a better name. I repeat that it marks the beginning of the pyloric, tubular part of the stomach. Cunningham demonstrated the existence of a special bundle of fibres there. Dr. Barclay agrees with me that contraction occurs more frequently in this region than elsewhere, and I consider it of so much importance surgically that I think it deserves a special name, and if Dr. Barclay can suggest a better one I am quite ready to adopt it.

Add to this Dr. Barclay's admission in his last letter that my theory "would be a satisfactory explanation" of well-known clinical phenomena "but for the fact that no middle sphincter can be found." Cunningham showed the presence of the fibres anatomically; Dr. Barclay's skiagrams show them in action; and I have seen them in action on the screen, in skiagrams, on the operating table, under the use of general anæsthesia, and, still more markedly, under local anæsthesia of the abdominal wall, and the evidence of their presence in the *post-mortem* room. What further confirmation can reasonably be asked?

I should like to remark that all Dr. Barclay's statements in paragraph 3 of his last letter bring evidence against his theory that the stomach becomes mechanically canalized by the effect of gravity when food enters it. It is impossible to believe that all the striking changes in the organ which are mentioned by Dr. Barclay can be explained by his "gravity theory" alone! The muscular fibres of the stomach are there for a definite purpose. How can gravity act in four-footed animals or in human beings who are compelled to lie flat on their backs, often with the pelvis higher than the shoulders, for weeks or months on end, and yet the stomach discharges its functions perfectly well?

Dr. Barclay has not yet answered my question as to discrepancies between the interpretations of various radiographers regarding the position of the pylorus. Innuendo as to my powers of observation or knowledge of surface markings neither elevates the discussion (nor the umbilicus) nor supports his arguments.

Dr. Barclay's attempt to reconcile Dr. Jordan's interpretations with his own entirely fails. Dr. Barclay locates the pylorus opposite the second lumbar vertebra. Dr. Jordan places it "behind the umbilicus." While it is universally admitted that the umbilicus is not a fixed point, it is left for radiographers to suggest that it may reach as high as the second lumbar vertebra!—I am, etc.,

Aberdeen, June 2nd. H. M. W. GRAY.

SYPHILIS AND CANCER OF THE TONGUE.

SIR,—I regret that Dr. Leitch should find that he is unable to accept my offer to exchange serums for comparison in investigating the relative proportion of cases of cancer of the tongue in which a positive Wassermann reaction has been obtained.

The antisyphilitic treatment to which Dr. Leitch refers frequently solely consists in the administration of potassium iodide; and since this drug is useful in clearing up other morbid exudates, a temporary improvement in cases of cancer of the tongue by no means indicates a syphilitic basis.

No argument of any validity has been advanced to controvert my original observation—for example, that in tertiary syphilitic lesions of tongue, mouth, or pharynx a very strong positive Wassermann reaction is usually present. Why, then, in cases of cancer in these situations, with a lesion of much greater magnitude, is there not associated at least an equally strong reaction if syphilis plays such an active part as Mr. Ryall would have us believe? It is most unusual in cancer cases to get a strong positive Wassermann reaction even if one suspects a history of syphilis.

In this connexion a remark on the topographical distribution of cancer obtained from Dr. Powell White's recent work on *Tumours* is of interest:

> We find that there are marked differences in the incidence in the different districts. For example, in England and Wales the great centres of industry, such as Monmouthshire, South Wales, Durham, and Lancashire, have a low cancer mortality; while in the more rural districts, such as Huntingdonshire, Cambridgeshire, and North Wales, the incidence is higher.

Perhaps Mr. Ryall would have us believe that syphilis, too, is correspondingly more marked in rural districts than in towns, for it is useless trying to explain the

etiology of cancer of the tongue apart from cancer of pharynx, lip, uterus, or indeed any other organ.

I am content, however, for the present merely to draw attention to the rarity of a strongly positive Wassermann reaction in such cases.

I keenly regret Dr. Leitch's inability to accept my offer for another reason. I believe the above conclusion to be of interest in the ultimate serum diagnosis of cancer. I freely admit that there is one possible source of error—and it is this which renders the whole question worth investigating—that there is in conjunction with cancer a condition in the serum which tends to neutralize a positive Wassermann reaction which otherwise would be manifest. It is this latter point which I wished to draw out in opening this discussion. Dr. Leitch will, I think, ultimately regret his "5 out of 7."—I am, etc.,

Manchester, May 29th. ARNOLD RENSHAW.

PSEUDO-FRACTURES OF TRANSVERSE PROCESSES.

SIR,—I am much interested in Dr. Rhys's communication (p. 1103) relating to pseudo-fractures of the lumbar transverse processes. True fractures are sometimes met with, and may be the cause of severe and persistent pain in the lumbar region; it is doubtful if they are diagnosed clinically. The usual history is a fall from a scaffold or down the hold of a ship. A few weeks ago I found all the right lumbar transverse processes except the first broken and displaced, one of them quite a fingerbreadth from the body to which it belonged.

The importance of these fractures is considerable from the medico-legal point of view, and given a case of persistent pain in the back after a fall or other injury in that region, a careful *x*-ray examination should always be carried out. It may save an honest man from a charge of malingering.

In the course of examining some hundreds of plates made of the lumbar region with a view of determining the presence or otherwise of urinary calculus, I have as a matter of interest paid attention to the many vagaries of Nature in her construction of the twelfth rib. I never feel sure whether she is engaged in some deep scheme of evolution for the benefit of posterity, or whether it is that she does not consider this structure worthy of any serious consideration. I do not think that two of these are ever found to be exactly the same, not even in the same patient. The difference may be small, or it may be only in the angle it makes with the spine, but there is always a difference, I need hardly say that only those plates made with the *x*-ray tube over the middle line are taken into consideration. In one case they were so short as to correspond almost exactly with the appearances shown in Dr. Rhys's paper (Fig. 2). By counting up from below I was satisfied that it was the twelfth dorsal vertebra. I have by me a plate that shows the same thing, but this time it is without doubt the first lumbar vertebra.

With regard to the appearances at the gap separating the outer portion of the process, the clear space bordered by a layer of very compact bone tissue so nearly resembles an articulation, that I have taken the view that these are really rudimentary ribs. The idea of incomplete ossification had not occurred to me, but I cannot help thinking that the appearances in my cases are rather against this view.

Referring again to Fig. 2 of Dr. Rhys's paper, I note that the two sides have been drawn differently. In my cases it has always been as shown on the left of the drawing. The process on the right side would more nearly correspond to my idea of incomplete ossification, but I have never seen this. It would be highly interesting and instructive if other radiologists would give us their views on this question. We have unique opportunities for illuminating many doubtful points in more senses than one.

Hand in hand with this morphological question we may note a similar apparent lack of decision in the structures near the opposite end of the dorsal vertebrae, though in a slightly different way. The first rib is perhaps too important a structure to be trifled with, but not so the seventh cervical vertebra. My only reason for introducing this is to raise the question as to what constitutes a cervical rib. The true rib is occasionally found, but not nearly so often as what I prefer to call an elongated transverse process. Both may give rise to similar symptoms, and many medical men class them all under the term "cervical rib." It is not unlikely that many cases of true cervical rib never come under observation, since with the absence of rigidity pressure effects are trifling or entirely absent. This may account for the fact that by far the larger number of cases sent for *x*-ray examination have one or both transverse processes elongated. These are sometimes called "false" cervical ribs, but surely we can find a better term than one that merely tells us what they are *not*.

Thanks to radiography this condition is much more frequently detected now than ever before, and knowledge of the condition has greatly increased in consequence.

This matter of abnormal ribs near both ends of the dorsal vertebrae would make an excellent subject for a thesis, and I hope some one who has the time will deal with it.—I am, etc.,

London, W., May 26th. REGINALD MORTON.

EXISTING UNSATISFACTORY CONDITION OF THE SCHOOL MEDICAL SERVICE.

SIR,—The opinions expressed by your correspondents, coupled with numerous private letters received in connexion with my communication to your columns of May 11th, leave no doubt that the school medical service of this country is in a very precarious condition. Both Dr. Graham and Dr. Turner bear testimony to the widespread discontent existing among members of this service, and as the one bases his opinion on a large number of letters received in consequence of his communication to your columns, and the other on replies to a circular letter, the reliability of their views cannot be questioned.

The letters I have myself received all indicate the same feeling; indeed, two inform me that the senders are leaving the service—a step which it is to be feared will ultimately be followed by all its best members unless some hope is held out of improved conditions in the near future.

One cannot help thinking that it is important, as a preliminary step, to try and secure more union between school doctors; at present opportunities for exchange of views appear to be confined to the press, while very few seem to know each other personally. I should be glad if any members of the school medical service, whether school medical officers or school medical inspectors, who share this view would be good enough to communicate with me. I think the solution of this part of the problem should present no difficulty.—I am, etc.,

ROBERT HUGHES, M.B.Lond., etc.,
School Medical Officer, County Borough of Stoke-on-Trent.
Stoke-on-Trent, June 2nd.

SIR,—I have read Dr. Priestley's letter with great interest, and I do not think the case could be put better. My object in writing is to express my whole-hearted agreement with his expressed opinions.

No one now doubts the onerous, exacting, and responsible duties of a school medical inspector. Frequently he possesses high degrees and has held house appointments, both at his own hospital and subsequently at special hospitals. He is often expected to do eye work and prescribe glasses. The pay may be £250 a year, and any opportunity to increase his income is firmly forbidden.

Presumably the advice of the school medical inspector is of value; if not, the inspection is useless. By means of Care Committees, nurses, etc., the parents are persuaded to act on the medical inspector's advice. If his advice be faulty the parents, who can ill afford it, pay a fee for nothing.

In this county the tuberculosis officer receives £500 a year; the school medical officer, who was in office years before the tuberculosis officer, receives £400. The reason for this difference in emolument is that the salary of the tuberculosis officer is provided partly or wholly out of Treasury funds. The school medical officer is maintained out of the rates.

School medical inspection was imposed upon local authorities at a time when their cup of bitterness was full, and the school medical service was not welcomed. It never will be welcomed till the cost is provided out of

Treasury funds. A man pays his Imperial taxes in sorrow, his rates in anger.

Not only is there no prospect for the school medical officers, but there is no security of tenure for their present positions. An adverse letter from the Board of Education may at any time displease the local authority, and as they cannot visit their displeasure upon the officials of the Board of Education, they make their own school medical officials suffer accordingly. This is not a fanciful supposition: it has actually happened.—I am, etc.,

Trowbridge, Wilts, May 27th. R. H. BREMRIDGE.

TUBERCULOSIS OFFICERS.

SIR,—Dr. Wilson has flattered Dr. Graham and myself by saying he appreciates our "good intentions!" He objects to Dr. Graham's statement that we (tuberculosis officers) are "a junior branch of the public health service." By date of formation and range of salary we are at present a junior service, but this is a painful subject, and I will leave it to Dr. Graham.

He next objects to my statements that we "look forward to entering the main branch of the public health service," or that "the ranks of medical officers of health will be recruited from "tuberculosis officers." My full statement was: "The ranks of the medical officers of health in the future must be recruited from school medical officers, superintendents of infectious hospitals, and tuberculosis officers, and most of these officers look forward to entering the main branch of the public health service." He sums up his own views that to "suggest" the tuberculosis officer "is a stepping stone to the post of medical officer of health is an error, and creates the idea of a hybrid service. . . ."

In making this statement Dr. Wilson has brought in his own views as to the correct status and qualifications of a tuberculosis officer. They may be right or wrong, but they cannot alter the fact that there are tuberculosis officers who regard their present post as a stepping stone to the post of medical officer of health, and that many tuberculosis officers are of the "hybrid" variety. As I write I recollect two such tuberculosis officers who happen to be personal friends of mine. As a matter of fact there are several kinds of tuberculosis officer in existence. There is a city in Lancashire which has five tuberculosis officers. The chief tuberculosis officer is the medical officer of health. The detailed administrative work devolves on an acting chief tuberculosis officer, who also is a junior assistant medical officer of health. The other three assistant tuberculosis officers are clinicians. There are thus two "hybrid" and three pure tuberculosis officers in this city. Further, in populous counties the senior tuberculosis officer is very largely engaged in administrative work, and tends to become more or less of a "hybrid."

But I wish to urge that every tuberculosis officer, pure or otherwise, should actively support every effort for his inclusion in the Medical Officers of Health Superannuation Bill. This should especially appeal to Dr. Wilson, because if a tuberculosis officer is a real "hybrid"—that is, a part-time medical officer of health—he is included in the bill, but if a really pure tuberculosis officer like Dr. Wilson, he is left outside.—I am, etc.,

Preston, June 1st. G. LISSANT COX.

The Services.

INDIAN MEDICAL SERVICE OFFICERS IN EDINBURGH.

THE annual dinner of the officers of the Indian Medical Service, retired or on the active list, took place in Edinburgh, in the Caledonian United Service Club, on Friday, May 30th. Sir Alexander Christison, Bart., was in the chair, and it was noted that there were some present whose service went back as far as the second Burmese war (1851). Among those who sat down were Surgeon-Generals Turnbull, Hay, and Sinclair, C.S.I.; Colonel Sir Joseph Fayrer, Bart., M.D., the superintendent of the Royal Infirmary; Brigade-Surgeon-Lieutenant-Colonel James Arnott, formerly professor of midwifery in Bombay; Colonel Cadell, of Bengal; and others.

The name of Deputy Surgeon-General W. Eames was omitted from the list of those present at the annual dinner of the Royal Navy Medical Club, published on May 31st, p. 1190.

Medico-Legal.

INTERPRETATION OF AN AGREEMENT.

Eastes v. Russ.

IN the Chancery Division, on May 27th, Mr. Justice Sargant delivered judgement in an action between two medical men, each of whom conducts a clinical research laboratory in London. The point at issue was whether the defendant, by establishing his laboratory, had committed a breach of his agreement with the plaintiff, and Mr. Justice Sargant held that this was not the case.

The general facts were as follows: The defendant entered the service of the plaintiff in December, 1905, and left it in October, 1912. His duties were to act as one of the two qualified assistants of the plaintiff in the conduct of a clinical research laboratory, the ordinary hours of work daily being from 9 a.m. to 6 p.m. He signed no formal contract of service, but before being engaged was given a copy of a statement setting forth the nature of the work and conditions on which it was to be performed, and the salary to be paid and other like matters. The final paragraph stated that acceptance of the post would be taken as an agreement on the part of the candidate to all the foregoing conditions and as constituting a binding agreement between the two parties. The defendant was given a copy of this statement, and eventually accepted the post.

After holding it to the satisfaction of his principal for several years, as already indicated, he vacated it by common consent, and then opened in London a corresponding laboratory of his own. When doing so he did not endeavour, by circulars or otherwise, to obtain work from clients of his old principal, but nevertheless the latter held that by opening a clinical research laboratory at all in London the defendant had committed a breach of his agreement. One of the paragraphs in the statement mentioned said that the candidate selected would be required to enter into a bond not to engage in similar work within a distance of ten miles of this laboratory, either by himself or on the part of any institution of like character, under a penalty of £250; while part of another paragraph bound the holder of the post to co-operate in securing harmonious working of the laboratories.

On these facts the plaintiff asked for an injunction restraining the defendant from continuing to maintain the laboratory opened by him. The arguments put forward were to the following effect: The paragraph mentioned obviously referred not to the time during which the defendant was employed by the plaintiff, but to afterwards. It could not refer to the former, because the post held by the defendant was a whole-time post, the tenant of which could not possibly do the work covered by the condition. This was rendered clearer by the paragraph as to the tenant of the post being obliged to endeavour to promote harmonious working; there could be no harmonious working if the tenant were engaged in competitive work elsewhere. There was nothing in law to render invalid an agreement not to practise within a given limit during the whole period of life, and the condition was not more stringent or further reaching than was required for the reasonable protection of the plaintiff. Many of his clients resided at places outside a ten-mile limit, so the clause was not rendered unenforceable by undue stringency.

The reply put forward on the part of the defendant was to the effect that as a matter of fact he had read this condition as applying only to the time that he was actually employed by the plaintiff and not to any later period, and that that was the correct interpretation of the paragraph. Even if the contrary were the case, the wording of the paragraph was so ambiguous that the court ought not to hold that there had ever been any true consensus between the parties and therefore any enforceable agreement on the point. The argument that the condition could not possibly relate to the time during which the defendant was in the employ of the plaintiff because it was a whole-time post was not sustenable, because, as a matter of fact, during the whole of his service the defendant was doing other work as well. It was true that this was private research work and did not bring him remuneration, but the time occupied by it might have been employed by him in competitive work but for his interpretation of the existence of the paragraph in question.

Mr. Justice Sargant, after reviewing the facts of the case and the arguments on either side, held that he ought not to issue the injunction sought. It seemed to him that the natural interpretation of the disputed paragraph was that the condition laid down by it was coextensive with the defendant's employment by the plaintiff, and did not apply after its termination. Such interpretation was all the more natural, because every other paragraph related to that time, and there was nothing to differentiate the paragraph in this particular from the rest. He agreed that by his decision the plaintiff would suffer a certain degree of hardship. On the other hand, it would be monstrous that a man should be deprived for the whole of his career from carrying on work which had been the principal work of his life, unless that obligation had been put before him in definite and clear terms. It would be a terrible conclusion if the defendant, having accepted the terms as they were put before him by the plaintiff, and finding nothing whatever in them to indicate in any way that he was fettering himself from carrying on his life's work after the termination of his employment with the plaintiff, found that in fact, by a difficult and elaborate construction of the agreement, words were introduced into a paragraph which made that paragragh apply not merely, like the

other paragraphs, to the time during which the defendant was working for the plaintiff, but to the whole of the rest of his life. Hence the action would be dismissed with costs.

In the course of his judgement Mr. Justice Sargant expressed the opinion that the case had been very fairly fought by both sides.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following degrees have been conferred:

M.B.—E Calvert, J. B. Pulling.
B.C.—F. S. Bedale.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examination indicated:

THIRD M.B.—‖F. E. Daunt, ‖P. V. Early, *§A. Goodwin, ‡‖A. L. Moreton (University Medal), *D. E. Morley, †W. L. Webb, E. Bach, Helen P. Barnes, A. B. Cardew, J. H. Cobb, H. S. Colson, G. Covell, L. G. Crossmann, G. R. Dobrashian, J. A. Edmond, A. R. Elliott, A. L. Fitzmaurice, F. R. Fletcher, G. T. Foster-Smith, C. R. Harrison, R. F. Hebbert, R. G. Hill, H. W. Hills, R. L. Horton, Charlotte G. Judge, S. Keith, F. H. Kelly, C. D. Killpack, J. D. Lyle, G. R. Lynch, G. S. Miller, P. J. Montgomery, Edith M. N. Moss, W. D. Owen, G. H. Pearson, H. R. Prentice, G. F. Rigden, W. Robinson, J. A. Ryle, W. Salisbury, F. Sanders, W. B. Sanders, A. R. Sharrod, A. J. E. Smith, Margaret E. E. Smith, W. H. D. Smith, W. C. Spackman, Mary A. van Ingen, E. W. Wade, J. R. M. Whigham, N. T. Whitehead, T. D. Williams, A. Wilson, W. W. Wood.

* Distinguished in Medicine.
† Distinguished in Pathology.
‡ Distinguished in Surgery.
‖ Distinguished in Midwifery and Diseases of Women.
§ Obtained the number of marks qualifying for the University Medal.

Group I only.—H. Davies, S. F. Dudley, C. E. A. Goddard, P. H. Henson, M. Hocken, S. G. Papadopoulos, H. C. Rook, E. A. Tozer, V. D. C. Wakeford, H. B. Walker.

Group II only.—R. Creasy, Henrietta F. Davies, J. P. Davies, R. D. Davy, W. H. Jones, W. J. T. Kimber, P. S. B. Langton, Margaret J. McEnery, L. A. Martin, G. Matthews, L. N. Reece, A. D. Rope, D. Ross, E. W. Whiting.

UNIVERSITY OF MANCHESTER.

RESIGNATION OF THE VICE-CHANCELLOR.

THE annual meeting of the Court of the University of Manchester was held on May 28th, the Chancellor, Lord Morley, presiding.

ANNUAL REPORT.

The Vice-Chancellor in presenting his annual report drew special attention to the fact that the number of students remained about steady. The actual increase on the year was three, but progress was indicated because the number of those who had taken honours and the full courses was larger than formerly. There had been a perceptible growth in the number of medical students. For some time there had been some anxiety on this point, but the arrangements made for medical education were now well recognized, and the number of students was increasing. The decision to admit women to the medical courses had proved successful, and the facilities now offered to women students were second to none in the kingdom. In the faculty of technology there had also been an increase, and he was satisfied that the arrangements made between the university and the School of Technology would be immensely helpful to both. With regard to the question of the superannuation of the teaching staff, the Board of Education had received most sympathetically the suggestions made by the university, and the Vice-Chancellor hoped that within the next few weeks an excellent scheme would be adopted which would allow of much elasticity to each university.

Number of Students.

The report showed that the number of students during the past session was as follows: All faculties, except medicine and technology, including 320 women students, 1,092. Faculty of Medicine, including 32 women students, 372. Faculty of Technology, including 2 women students, 246. This is a total of 1,710, or, allowing for 47 who have entered in both science and medicine, 1,663. In addition there are 201 persons attending evening classes, about 200 attending lectures on railway economics, and about 200 in courses in law and economics at the Bankers' Institute. In the Faculty of Medicine 134 were working for the degree examinations, 7 for the University of London, 10 for other universities, 2 for the F.R.C.S., 29 for the English Conjoint examination, 3 for the Scottish Triple qualification, 3 for the diploma in Psychological Medicine, 3 for the degree in Dentistry, 48 for the diploma in Dentistry of the Manchester University, and 15 for the diploma in Dentistry of the Royal Colleges of Surgeons and Physicians. Also 41 were working in special departments, namely, Medical, 5; Pharmaceutical, 5; and Public Health, 31.

Appointments in the Faculty of Medicine.

The report noted that A. Donald, M.D., M.R.C.P., had been appointed Professor of Gynaecology and Obstetrics, in succession to the late Sir William Sinclair, and W. K. Walls, M.B., Lecturer in Clinical Obstetrics and Gynaecology; A. E. Boycott, B.Sc., M.A., M.D., of Guy's Hospital, had been appointed Professor of Pathology, in succession to Professor Lorrain Smith, who had resigned on being appointed Professor of Pathology in the University of Edinburgh; Dr. E. S. Reynolds had been appointed Professor of Clinical Medicine, in succession to Dr. Judson Bury, whose professorship ceased on his retirement from the staff of the Manchester Royal Infirmary. Dr. William Sellers, Coroner for Salford, had been appointed Professor of Forensic Medicine, in succession to the late Dr. Dixon Mann; Dr. C. P. Lapage had succeeded Dr. Hutton as Lecturer in Diseases of Children, and Dr. G. H. Lancashire had succeeded Dr. Brooke as Lecturer in Skin Diseases.

HONORARY DEGREES.

The Court approved of the conferment of the following honorary degrees: LL.D., Mr. Jesse Haworth; Litt.D., Mr. T. E. Page and Mr. M. E. Sadler; M.Sc., Mr. R. W. Williamson. The conferment of the degree of D.Sc. on Professor Perkin for special distinction in chemical research was endorsed.

PROPOSED DIPLOMA IN OPHTHALMOLOGY.

Professor Elliot Smith moved the adoption of an ordinance instituting a diploma in ophthalmology. Dr. F. Shaw drew attention to the resolution recently passed by convocation in opposition to the ordinance; it was felt, he said, that it was not desirable, after a course of only six months, to confer a diploma which might give the public an erroneous idea of the amount of knowledge and experience of the holders. This was the first time a diploma had been proposed for a clinical subject, and if it were passed, the court could not logically refuse to give diplomas in all other clinical subjects. He moved, as an amendment, that the proposal be referred back. This was seconded by Mr. C. T. Needham, M.P., and carried.

RESIGNATION OF THE VICE-CHANCELLOR.

Sir Alfred Hopkinson then asked permission to withdraw while the court considered the letter which he had sent to the Chancellor, in which he begged to resign his position as Vice-Chancellor.

The Chancellor then read the letter, which stated that, having been engaged for over fifteen years continuously in the work of the university, Sir Alfred Hopkinson felt that the time had come when he should resign. He did so not for reasons of health nor from any desire to retire from active life, but simply because he believed that there was a period in the history of an institution when change was desirable and when a new administrative head might bring in fresh vigour and exercise a stronger influence than one who had held office so long as he had. While certain questions were pending, such as the position of the university with regard to Government grants and its relations to the Board of Education, it was impossible for him to take this step, but most of these questions were now settled, and the relations between the university and the city, county, and local authorities were of the most friendly character. During his tenure of office new buildings had been erected at a cost of £190,000, exclusive of the Whitworth Hall, for which Mr. Christie had provided, and all this sum of money, with the exception of a few hundreds, had been actually paid. No debts had been accumulated, and for some years the annual expenditure had not exceeded the income. The special problems that presented themselves at the time of his appointment and the reorganization of the university had now been dealt with, and he thought the moment now opportune for putting into new hands the new development work which the university would undertake. In conclusion, he thanked the Court for the kindness and generous support it had given him ever since his appointment.

After reading the letter, Lord Morley expressed his personal feeling of regret at the decision of Sir Alfred Hopkinson and the gratitude of the Court for the fidelity with which he had discharged his duties. Sir F. Forbes Adam then moved the following resolution:

> The Court has heard with regret the intimation of the resignation of the Vice-Chancellor, and begs to express the earnest hope that in the interests of the university he will see his way to reconsider it.

This was seconded by Professor Weiss and supported by Sir William Mather and Lord Morley, and adopted unanimously with applause.

At a meeting of the Council on June 4th, however, it was announced that a letter had been received from Sir A. Hopkinson stating that he must adhere to his resolution, and desired to retire not later than October next. He will, however, retain the Christie Chair of Law in the university.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have been approved in the subjects indicated:

SURGERY.—*†E. L. Jones, †E. M. Morris, *T. B. Paul, *C. G. Waddington.
MEDICINE.—*†S. H. Andrews, *P. R. Cross, †A. C. Dickson, †T. H. W. Idris, *†E. L. Jones, *†W. R. Sadler.
FORENSIC MEDICINE.—S. H. Andrews, P. R. Cross, E. L. Jones, A. Y. Massey, W. R. Sadler.
MIDWIFERY.—D. T. Corke, W. H. Edmunds, E. L. Jones.

* Section I. † Section II.

The Diploma of the Society has been granted to Messrs. A. C. Dickson, W. H. Edmunds, E. L. Jones, and E. M. Morris

Obituary.

The death took place on May 16th of Dr. James Willett, of Stockton Heath, a medical man who at the time of his death was one of the few Lancashire survivors of the old-fashioned type of country doctor. Dr. Willett, who became L.S.A. in 1857 and M.R.C.S. in 1862, was born and bred in the neighbourhood in which he practised, and was at one time medical officer of health for the area. He had given up practice for a good many years, but his personal qualities were such that he retained the trust and affection of his neighbours despite this fact and his advancing years. Until lately he was a member of the Warrington and Widnes Division of the British Medical Association, and the large gathering which attended his funeral on May 21st included a deputation from this body, as well as other members of the medical profession.

Lieutenant-Colonel Richard Craig, late R.A.M.C., who died on May 5th, at the age of 67, was the son of the late Richard Craig of the Bank of Ireland. He took the diplomas of L.R.C.P. and L.R.C.S.Irel. in 1866, entered the service in March, 1868; was promoted to surgeon in March, 1873; and surgeon-major in 1880, retiring in January, 1892, with the rank of lieutenant-colonel. He served as senior medical officer of the Third Brigade with the Burmese expedition of 1886–88, and was awarded the medal with two clasps.

Public Health
AND
POOR LAW MEDICAL SERVICES.

BURNLEY GUARDIANS AND THEIR MEDICAL APPOINTMENTS.

The position in the Burnley district has been from time to time recorded. The medical officers of the Burnley Union, acting on the advice of the Burnley Division of the Association, and after many attempts at negotiation with the Burnley Guardians, resigned their appointments some months ago as a protest against the salaries paid by the guardians. The Division had satisfied itself that these salaries were considerably less than those paid for similar work in many other unions. The guardians, after a long delay, during which the patients under their charge were attended as private patients by local doctors, succeeded in inducing the Local Government Board to sanction a plan for the redistribution of the appointments, at salaries which, though an improvement on the old scale, were yet considered by the Division to be below the standard set by other unions. The new proposals were vitiated also by the fact that the appointments were combined with those of the public vaccinators in a way which, while apparently raising the salary of the Poor Law medical officer, did so by lowering the real remuneration of the public vaccinator, a thoroughly bad system which has long been condemned by the Association, whose disapproval has been endorsed, in an academic way, by the Local Government Board and emphatically by the Royal Commission on the Poor Law. We regret to find, according to a report in the *Burnley Express* of May 31st, that three practitioners have been induced to make application for the fifteen appointments advertised. These gentlemen were appointed, and their applications led the guardians to express the hope, which we trust will be falsified, that other applications would follow. It is a matter of great difficulty to get any considerable number of the members of any calling to act together in a matter of this kind, but it was believed that the loyal way in which the local profession had stood by the former holders of the posts, and had declined to be cajoled into accepting the largely illusory improvements made by the guardians, would have received unanimous support when the crucial moment arrived.

The gentlemen who have been appointed no doubt thoroughly counted the cost before they applied for office, and came to the conclusion that the salary offered was, so far as they were concerned, adequate. As to that they are naturally the best judges. They are, of course, aware of the effect their action has produced, not only on the guardians who have accepted their services, but on their relations with their colleagues. In spite of this breach in the solidarity of the profession, we venture to express the hope that applications for the remaining twelve appointments will not be made. We do so not merely for the sake of again endorsing the spirited action taken by the Burnley Division, but because it has long been common knowledge that the remuneration offered for posts of this kind is in many cases far below what it should be, and such a depreciation of payment can only lead eventually to the lowering of the standard of service given, which is a bad thing for the profession and the public generally, and for the pauper patients in particular.

Medical News.

The annual dinner of the Medico-Legal Society will be held at the Holborn Restaurant on Monday, June 23rd, at 7.30 p.m.

Sir David Gill, for many years His Majesty's astronomer at the Cape of Good Hope, and President of the Research Defence Society, has been made a Commander of the Legion of Honour by the President of the French Republic.

The University of Oxford has conferred the degree of D.Litt. honoris causa on Dr. John Wickham Legg. Dr. Legg, who was for some years assistant physician to St. Bartholomew's Hospital, is a recognized authority on liturgical literature.

The Cavendish Lecture before the West London Medico-Chirurgical Society will be delivered by Sir Berkeley G. A. Moynihan, of Leeds, in the Town Hall, Kensington, on Friday, June 27th, at 8.15 p.m., the subject being the surgery of the large intestine.

At the meeting of the Royal Society, on Thursday next, papers by Drs. Blacklock and Yorke on the trypanosomes causing dourine, and by J. G. and D. Thomson on the growth and sporulation of the benign and malignant tertian malarial parasites in the culture tube and in the human host will be read.

The usual breakfast will be given by the National Temperance League at the annual meetings of the British Medical Association at Brighton. The President-elect, Dr. William Ainslie Hollis, M.A., F.R.C.P., has consented to preside, and Dr. Mary Scharlieb to speak after the breakfast, which will take place in the Banqueting Hall of the Royal Pavilion, on Thursday, July 24th.

Mr. Littlewood, who, as already reported, has resigned his position as senior surgeon to the Leeds Infirmary to retire to the country, was recently entertained at a complimentary dinner by medical men in Yorkshire. The dinner took place at Leeds under the presidency of Mr. Pridgin Teale, and the toast of Mr. Littlewood's health was proposed by Dr. J. E. Eddison. The following evening Mr. Littlewood was entertained by the students of the medical school and presented with a silver cigar case.

With reference to a paragraph in the Journal of May 17th, p. 1080, stating that a new medical building of the skyscraper order of architecture is in course of erection in New York, Dr. Charles Forsyth, of Hong Kong, writes that all the British doctors in Hong Kong have their consulting-rooms in the same building, which, though large, is not a skyscraper. The idea of a building let out to medical practitioners is, of course, not a new one. There are, we believe, several such buildings in the large cities in the United States, one or two of them at least having been erected fifteen or twenty years ago.

On Wednesday, June 11th, the Anglo-German Exhibition will be opened at the Crystal Palace by the Lord Mayor of London. The exhibition, among a large variety of machinery, apparatus, industrial products, painting and sculpture, printing and so forth, includes sections of food supplies and education. There will also be a naval and military section. Every effort has been made to make the exhibition attractive as well as instructive by means of side shows and international athletic and gymnastic competitions. The exhibition is intended to increase the friendliness of the relations between this country and Germany.

A dinner for past and present students of the Central London Ophthalmic Hospital was held on May 21st, at the Café Royal, London. Mr. Ernest Clarke, senior surgeon of the hospital, who presided, proposed the toast of "The Hospital and its Medical School," and spoke of its growth and success during the past few years, also of the fine new building which had lately been opened in Judd Street. Mr. Mayou (the Dean), in reply to the toast of "The Medical School," pointed out that its prosperity in the new quarters which afforded such excellent teaching facilities now seemed assured. The Chairman proposed the toast of "The Visitors," which was responded to by Mr. Sydney Stephenson and Mr. Leslie Paton, both of whom expressed their admiration of the new hospital.

The *Daily Express*, which recently opened a subscription list for the purpose of providing the London hospitals with radium, received £10,375, and this sum has been distributed as follows: To the Middlesex Hospital, £1,100; to St. Bartholomew's, Charing Cross, the London, King's College, and St. George's Hospitals, £1,000 each; to the Westminster, the Metropolitan, the Seamen's, the West London, the Great Northern Hospitals, University College Hospital, and the Cancer Hospital, Fulham Road, £500

each; to the Prince of Wales Hospital, £275; and to the Chelsea Hospital for Women and to St. John's Hospital for Diseases of the Skin, £250 each. Some of the larger donors earmarked their contributions for certain institutions, and in respect of the rest our contemporary was guided in its allocation by a committee which, among other points, took into consideration the proportion of patients suitable for radium treatment which each institution was likely to have. It is calculated that for the lowest sum allocated—namely, £250—about 15 mg. are procurable, and that this is an amount with which a good deal of useful work can be done. In fulfilment of a promise made by Lord Glenconner (the Lord High Commissioner for Scotland) to Sir Joseph Fayrer (the superintendent of the Edinburgh Royal Infirmary), when he was paying his official visit to that institution last week (vide p. 1185), the High Commissioner has now intimated a donation of £1,000 to be employed in the purchase of radium to be used in the infirmary.

THE promoters of the National Health Exhibition, which was held at the Holland Park Skating Rink from May 16th to May 31st, have every reason to congratulate themselves upon the success of their attempt to interest the man in the street in the preservation of his own and his children's health. The exhibition, which was organized for the express purpose of instructing the lay public in the elements of domestic hygiene, was most attractively arranged; and even a cursory inspection of the exhibits could not fail to arouse the interest of the visitors in this important subject. Some extremely interesting exhibits were on view in the different sections, one of the most popular of which consisted of a number of incubators, each containing a living baby. Several stalls were given up to the display of dirt and germ destroying and labour-saving contrivances and unadulterated foodstuffs, whilst a series of pretty model rooms (including a charming nursery) gave a much-needed lesson in the art of furnishing a house according to the latest hygienic principles. Demonstrations in cooking were given daily at frequent intervals, and a variety of competitions were held in different subjects, for which gold, silver, and bronze medals and diplomas to the value of £100 were awarded.

AT the annual meeting of the Glasgow University Club, London, on May 30th, it was resolved to hold this meeting in future before the autumn dinner instead of before the spring dinner, thus enabling complete accounts for the expired club year to be furnished. The accounts presented included a donation of fifty guineas to the Glasgow University Athletic Club, but nevertheless showed a balance in hand of over £70. A donation of ten guineas to the Lister Memorial Fund was approved, the sum being earmarked for a memorial in Glasgow itself. Mr. W. Craig Henderson, M.A., D.Sc., having resigned office as one of the honorary secretaries of the club after seven years' service, was awarded a vote of thanks and elected a vice-president. As president Lord Rosebery was re-elected for a further year, and Drs. D. S. Roxburgh and Andrew Wiley were appointed honorary secretary and honorary treasurer respectively. At the dinner which followed the same evening the chair was taken by Mr. Birrell, who, in addition to many other things, is the present Lord Rector of the university. After speaking of the newer universities, he said that, after all, there must be some preference shown towards those which, like Glasgow, dated back to pre-Reformation times. It was a pleasure to think of their long centuries of use, and there was something fascinating in studying their history. The toast to the Chairman was proposed by Surgeon-General Babtie, V.C., C.B., and that to the guests acknowledged by Dr. George Ogilvie. The dinner was well attended, and in the course of the evening it was mentioned that the club now numbers 357 members.

THE members of the Aberdeen University Club, London, held their half-yearly dinner on May 21st. Dr. W. J. R. Simpson, Professor of Hygiene in King's College, London, was the chairman. Among those present were: Surgeon-General Sir James Porter, Sir Henry Craik, M.P., Sir Robert Burnet, Sir James Mackenzie Davidson, Dr. James Taylor, Professor Ashley W. Mackintosh, Mr. James Cantlie, Sir William Ramsay, Dr. James Galloway, and Sir John Collie and Mr. W. Hall Barron (joint secretaries). The Chairman, in proposing "The University and the University Club," mentioned that he graduated thirty-seven years ago. The professors who impressed him most were Struthers, Pirie, and Brazier. He believed there never would have been a Sir Patrick Manson if it had not been for the zoology professor in Aberdeen. Sir Patrick Manson's monumental work on the development of filaria in the mosquito, and his deduction from this as to what occurred in the mosquito in malaria, had, with Sir Ronald Ross's discovery of the correctness of his deduction, established a new era in tropical medicine and sanitation. Manson's work ranked with that of Pasteur and Koch. He went on to say that he had been in many lands, and everywhere he had found Aberdeen graduates in prominent positions, except in West Africa where Scotsmen were scarce, for the reason, he had heard, that the pay was not enough for an Aberdonian. He believed that was being altered now. Professor Mackintosh proposed "The Guests," and Sir William Ramsay responded. Mr. Cantlie, in proposing the toast of "The Chairman," said that as Manson was the father of tropical medicine, Professor Simpson was the father of tropical hygiene. Professor Simpson feelingly expressed his thanks.

THE Imperial Services Exhibition at Earl's Court, which was opened by the Duke of Connaught on Saturday, May 31st, affords a good opportunity for the general public to gain some insight into the different phases of life in the British Navy and Army, and incidentally proves with what care the health and well-being of the sailor and soldier are now guarded, both in peace and in war. A life-size model of the after-part of H.M.S. *Lion* enables the visitor to realize the surroundings in which the officers and crew of a modern battle cruiser live; the sick bay, with its spotless cots and big bath, presents a very attractive appearance. Close by is a miniature wireless telegraphy station, from which it is possible to transmit messages to the other side of the grounds, where an entrenched camp, blockhouse, and armoured train show how an invading army endeavours to protect itself from sudden onslaught and night attacks. In the Red Cross enclosure is a field hospital and a fully equipped hospital train, with medical officer, orderly, and nurses in attendance, whilst a number of Major Richardson's sentry and ambulance dogs are on view close at hand. A very large number of valuable curios, pictures, and trophies, including a collection of antique weapons from the Tower of London, are to be seen in the different buildings in the grounds; whilst, later on, it is hoped that the relics of the Scott expedition will be deposited for a time in the Prince's Hall. To the majority of visitors, however, the principal feature of the exhibition will be the magnificent spectacle of naval and aërial warfare in the Empress Hall, in which may be seen the bombardment of a town by a British fleet, every vessel of which is a replica of one of a battleship or cruiser now in commission. This interesting exhibition, which is one of the most attractive held at Earl's Court of recent years, has been organized and carried out by naval and military experts under the auspices of the Admiralty and the War Office, and the money taken at the gates is to be used entirely for the benefit of the sailors and soldiers of the United Kingdom.

THE annual meeting of the Asylum Workers' Association was held at the house of the Medical Society of London, W., on May 28th, under the presidency of Sir John Jardine, K.C.I.E., M.P. The annual report, presented by the Honorary Secretary (Dr. G. E. Shuttleworth), showed some falling off of ordinary membership for 1912, which was attributed to an active trade union propaganda in asylums, but the finances continued sound, and much useful work had been carried on by the Central Executive Committee for the benefit of asylum staffs throughout the United Kingdom. Sir John Jardine, in moving the adoption of the report, referred to the bill he had recently reintroduced for extending the benefits of the Asylum Officers' Superannuation Act of 1909 so as to allow female officers and nurses to retire on pension after twenty-five years' service, independent of age, and men in charge of patients after the same period, if 50 years of age. Some concessions were also asked with regard to giving asylum committees power to award gratuities to the dependants of those dying in active service, and to those incapacitated for further service, though short of the pension age, by illnesses (for example, colitis), as well as by injuries, clearly attributable to asylum duties. Provision was also made for reckoning for pension service in Scottish parochial asylums, and for a wider definition of "established officer or servant," with power of appeal to the Lunacy Commissioners in cases of dispute. Sir John Jardine trusted that, considering the arduous lives of workers amongst the insane, these moderate demands would not be opposed by a Liberal Government. The adoption of the report was seconded by Dr. Campbell (of Larbert Asylum), supported by Dr. Drapes (of the Enniscorthy Asylum) and Dr. Stewart (late of Dunmurry), and unanimously agreed to. Sir John Jardine was reappointed President for the ensuing year, and the executive committee and officers were elected. A resolution in support of Sir John Jardine's Asylum Officers' Superannuation Amendment Bill was enthusiastically carried.

Letters, Notes, and Answers.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

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☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

SOL asks for advice in the treatment of a girl, aged 12, who is quite healthy, but whose face is covered with freckles, present even in the winter.

DR. F. WILLIAM COCK, F.S.A. (1, Porchester Houses, Porchester Square, W.), asks where the preparation of the aortic aneurysm removed in 1847 from Robert Liston is. There is, he says, a persistent tradition that it is in existence, but he has been unable to locate it. It is not at University College, R.C.S. London, Edinburgh, Cambridge, or Norwich. In all probability the specimen was put up by William Cadge, who made the *post-mortem* examination.

SOMNAMBULISM.

ABER would be grateful for advice in the treatment of somnambulism in a young lady, aged 24. It commenced about nine months ago, during convalescence from a severe attack of diphtheria in which bradycardia was a predominant symptom. The patient often gets up two or three times the same night and walks to various parts of the house. The act seems to be preceded by a period of excitement, when the patient seems as if terrified. The general health is fairly good, though the patient has lost flesh during the last six months.

ANSWERS.

SUPERFLUOUS HAIR.

DR. DOUGLAS FRESHWATER (London) writes: I would refer "Derma" to my article on "Hairiness and its Treatment" in the *Practitioner* for May last. Probably, if the hairs are not too numerous, repeated rubbing with pumice stone would be the best treatment.

SOFT WATER AND IRON PIPES.

DR. E. NORTON (Capel Lodge, near Folkestone) writes: I think Dr. E. H. O. Sankey will find it advisable to abandon the use of iron pipes (either plain or galvanized), because hot, soft water eats into these very rapidly. I would suggest instead of them a copper boiler and pipes. He would then have clean water for baths and all household purposes. It also would be much hotter. The cost of copper pipes, etc., would probably be a third more than iron, but this would ultimately be saved in repairs. I am not aware of any danger to health; copper kettles, lined and unlined, have been in use for centuries.

SOFT CORNS.

J. M.—Reference to works on skin diseases will show that it is held that soft corns, like hard corns, are due to pressure or friction from tight or badly fitting boots, usually to a combination of these defects. The corn must be removed by soaking and scraping or by salicylic acid plaster. Crocker (*Diseases of the Skin*) continues as follows: "Soft corns should have the hard skin removed in one or other of the above ways; careful daily ablution with soap and water should be used, spirits of camphor painted on at night, and wool worn between the toes in the day time. All the numerous corn cures, if of any use, act on one or other of these principles. Duhring recommends the application of a 4 to 8 per cent. caustic potash solution after removing the thickened cuticle; it must be done cautiously, the part round being protected by a ring of plaster. Vigier's formula is also a good one: Salicylic acid, gr. 15; ext. cannab. ind., gr. 8; alcohol, ♏ xv; ether, ♏ xl; collodion flexile, ♏ lxxv. It is to be painted on with a brush three times a day for a week, when the corn can be easily picked off."

LETTERS, NOTES, ETC.

ARNETH'S METHOD OF PROGNOSIS IN PULMONARY TUBERCULOSIS.

DR. H. D. MCCULLOCH (London) writes: The method suggested by Dr. J. B. H. Holroyd in the BRITISH MEDICAL JOURNAL of May 3rd is attractive, though from a different point of view than that of the pathological haematologist. A question that must have occurred to many, and one that awaits answer, is, Why does the leucocyte become polymorphic; what is the cause of the transformation from the original mononuclear state?

The observations of Arneth led him to infer that "the cells with I or II nuclei were less resistant than the cells with III, IV, and V nuclei, and that when those less resistant cells were present in large numbers the severity of the cases varied directly as the number of these cells." Dr. Holroyd's observations confirm those of Arneth, whose normal standard appears very suggestive.

I have been inclined to ascribe polymorphism to the individual age and environmental experience of the leucocyte during its course of physiological existence—that is to say, the deformity of the original single nucleus inevitably follows upon its amoebic passage by penetration through variously dense tissues, which happen to be interposed between its gland or tissue of origin and the site or sites of the infective reagents on any part of the mucous membrane or defective cutaneous surface under the influence of chemiotaxis. The density of the walls of blood vessels during the egress or ingress of leucocytes may seem negligible, especially in vaso-dilator states, but the common occurrence of vaso-constriction on such occasions may be productive of polymorphic deformities on a more or less large scale. They may also conduce to an accession of blood platelets to the circulating blood as well by amputations of the leucocytic cytoplasm, as occurs under the vaso-constrictor effects, owing to the presence of toxic and purin pressor principles in young women anaemics.

I have recently drawn attention to this in a communication to the Physiological Society. I would suggest that the presence of the small percentage of I and II nuclei cells is indicative of the fact that these leucocytes are the last proliferations of the over-functional local leucopoietic tissues or glands, and that the large percentage of the III and IV nuclear leucocytes is indicative of their more remote source from the site of the lesion, and therefore of their greater efficiency.

TARAXACUM IN CANCER.

DR. A. STEVENSON (Sunderland) writes: I read with much interest Dr. Herbert J. Robson's note on the use of taraxacum in cancer, which appeared in the JOURNAL of May 25th, 1912; also the letters by "A. D." and Miss Evie Evans, M.B., on local applications of taraxacum juice, in the JOURNAL of July 13th, 1912, and Dr. Bain's article on taraxacum in partial intestinal obstruction in the JOURNAL of May 3rd, 1913. A patient of mine was operated upon by Professor Ranken Lyle, Newcastle, three months ago for a malignant tumour of the left ovary. When Dr. Lyle performed the operation he found secondary deposits in the liver and omentum, which he was unable to remove. After the patient left the hospital I again attended her, and had great difficulty in treating the sickness and constipation, which continued and increased as time went on. At last I gave taraxacum a trial, and after two or three doses the sickness stopped and the bowels became active. As the patient was very much emaciated her end was a matter of days, but during these few days she obtained much relief from the use of taraxacum. I can fully endorse all that Drs. Robson and Bain say in its favour.

SALVARSAN IN PERNICIOUS ANAEMIA.

DR. BYROM BRAMWELL (Edinburgh) writes: In my lecture on "The Salvarsan Treatment of Pernicious Anaemia," published in the BRITISH MEDICAL JOURNAL of May 24th, I state "salvarsan contains arsenic *and mercury.*" It is, perhaps, unnecessary to say that this is a mistake. In the Address in Medicine, which I had the honour of delivering at the Birmingham meeting of the British Medical Association, the subject of which was "Mistakes," I said that, when one makes a mistake, one should always try and analyse that mistake, and find out the reason for it. How I got the idea that salvarsan contained mercury I do not know; an old house-physician writes me, saying that I made the same mistake at one of my clinics some two years ago. Perhaps some such mental process as the following was the origin of this mistake: Mercury produces great benefit in syphilis, salvarsan also produces remarkable benefit in syphilis—therefore, salvarsan contains mercury.

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